

## **Integrated actions for joint coordination and responsiveness to flood risks in the Cross Border area**

### **Deliverable 3.3.4**

#### *The Strategy on national level*

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**STRATEGY FOR THE RELATIONSHIP BETWEEN PREVENTION AND RESPONSE  
FOR FLOOD PROTECTION OF BULGARIAN INSTITUTIONS ON BULGARIAN  
TERRITORY**

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*Final (corrected) version*

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## LIST OF THE MOST FREQUENTLY USED ABBREVIATIONS

BD	<i>Basin Directorate</i>
BDWAR	Basin Directorate "West Aegean Region"
BRC	Bulgarian Red Cross
WS	Water and sanitation
DG " FSCP "	Directorate General "Fire Safety and Civil Protection "
SA	State agency
SANTS	State Agency for Metrological and Technical Supervision
SG	State Gazette
FD	Directive 2007/60/EC on flood risk assessment and management
SEMD	State enterprise "Management of dams"
EC	European Commission
EU	European Union
USS	Unified rescue system
DPA	Disaster Protection Act
WA	Water Act
INTEREG	INTEREG program "Greece-Bulgaria" 2014-2020
CPC	Commission for the Protection of Competition
ICRA	Interdepartmental Commission for Recovery and Assistance
MI	Ministry of the Interior
ME	Ministry of Energy
MAFF	Ministry of Agriculture, Food and Forestry



ME	Ministry of Economy
MoEW	Ministry of Environment and Water
MRDPW	Ministry of Regional Development and Public Works
CoM	Council of Ministers
NIMH	National Institute of Meteorology and Hydrology
NSWMDS	National strategy for water management and development sector
NAMRB	National Association of Municipalities in the Republic of Bulgaria
DPP	Disaster protection plan
PFRA	Preliminary flood risk assessment
EPMC	Environmental protection management company
FRMP	Flood Risk Management Plan
ASPFR	Areas with significant potential flood risk
DRRC	Disaster Risk Reduction Council
FRM	Flood risk management
DRM	Disaster Risk Management
DRR	Disaster risk reduction
RRF	Reducing the risk of flooding
CPQ	Center for professional qualification
EMC	Emergency Medical Center



## CONTENTS

<b>1. INTRODUCTION .....</b>	<b>6</b>
<b>2. CONCLUSIONS FROM THE ANALYSIS OF THE EXISTING SITUATION .....</b>	<b>8</b>
<b>2.1. CONCLUSIONS FROM THE ANALYSIS OF NATIONAL LEGISLATION .....</b>	<b>8</b>
<b>2.2. ANALYSIS OF THE INSTITUTIONAL CAPACITY OF THE RESPONSIBLE INSTITUTIONS.....</b>	<b>12</b>
<b>2.3. PILOT TESTING AND ANALYSIS OF THE FUNCTIONALITY, APPLICABILITY AND EFFECTIVENESS OF THE STRATEGY .....</b>	<b>13</b>
<b>2.4. CONCLUSIONS FROM THE REVIEW OF INTERNATIONAL EXPERIENCE.....</b>	<b>14</b>
<b>2.5. PROPOSALS FROM THE CONSULTATIONS HELD WITH THE INTERESTED PARTIES.....</b>	<b>14</b>
<b>3. SWOT ANALYSIS .....</b>	<b>15</b>
<b>4. STRATEGIC GOALS AND PRIORITIES IN THE INTERACTION OF THE RESPONSIBLE INSTITUTIONS TO REDUCE THE RISK OF FLOODS. SETTING GOALS AND PRIORITIES .....</b>	<b>17</b>
<b>5. PREREQUISITES FOR ACHIEVING THE STATED GOALS .....</b>	<b>22</b>
<b>6. SEQUENCE OF ACTIONS AND MEASURES TO ACHIEVE THE SET GOALS.....</b>	<b>23</b>
<b>7. POTENTIAL SOURCES OF FINANCIAL ASSURANCE.....</b>	<b>26</b>
<b>8. CHOICE OF ALTERNATIVE .....</b>	<b>31</b>
<b>9. DEVELOPMENT OF A MECHANISM FOR MONITORING AND CONTROL OF IMPLEMENTATION .....</b>	<b>32</b>
<b>10. CONCLUSION.....</b>	<b>34</b>
<b>APPENDIX.....</b>	<b>35</b>
<b>1. ANALYSIS OF NORMATIVE ACTS AND SUB-NORMATIVE DOCUMENTS THROUGH WHICH FLOOD RISK MANAGEMENT ACTIVITIES ARE ENSURED AND PROPOSALS FOR FUTURE STEPS</b>	<b>35</b>
<i>Water Act.....</i>	<i>42</i>
<i>Disaster Protection Act .....</i>	<i>45</i>
<i>Ministry of Internal Affairs Act .....</i>	<i>45</i>
<i>Forest Act.....</i>	<i>46</i>
<b>2. MAIN INITIATIVES AND DOCUMENTS AT THE INTERNATIONAL LEVEL AIMED AT REDUCING DISASTERS, INCLUDING THE FLOODS.....</b>	<b>46</b>
<b>3. BASIC ACTS OF THE EUROPEAN UNION IN THE FIELD OF DISASTER RISK REDUCTION. ....</b>	<b>48</b>
<b>4. ASSESSMENT OF THE REGULATORY FRAMEWORK.....</b>	<b>52</b>
<b>5. INSTITUTIONS WITH A ROLE IN FLOOD RISK MANAGEMENT: .....</b>	<b>53</b>
<b>6. DETERMINATION OF GOALS AND PRIORITIES IN THE CONTEXT OF THE IDENTIFIED PROBLEMS .....</b>	<b>75</b>
<i>AT THE PREVENTION STAGE:.....</i>	<i>75</i>

## 1. INTRODUCTION

The present **Strategy for the interrelationship between prevention and response for flood protection of institutions from the Bulgarian side on Bulgarian territory** (hereinafter referred to as the Strategy) was developed in implementation of Agreement No. 14/27.12.2019 with the subject: *"Analysis of the legislation in Bulgaria for prevention, preparedness and response. Analysis of the current situation. Development of a draft strategy for interlinkages between prevention and response for flood protection for Bulgarian institutions, Development of a road map for the responsibilities, interlinkages and communications between Bulgarian institutions, with a schedule and detailed studies for the development of a roadmap for coordination of Bulgarian actions"*. The public order is implemented within the framework of the project "Integrated actions for joint coordination and response to the risks of floods in the transboundary area", financed under the INTEREG Program "Greece-Bulgaria" 2014-2020 with the contracting authority Basin Directorate "West Aegean Region" and **corrected in 2023 in accordance with the results of pilot testing, the analysis of the functionality, applicability and effectiveness of the strategy and coordination with stakeholders.**

The main goal of the development is to determine the main strategic priorities for improving the interaction and efficiency in the work between the individual responsible institutions, to identify specific measures and actions to improve the overall coordination and cooperation between the various institutions having a role in flood risk management and increasing its effectiveness at the national, regional, municipal and local level.

Emphasis is placed on improving flood risk management mechanisms, ensuring changes to existing planning legislation and flood mitigation actions.

This strategic document is in line with the current situation in the country, as well as with the basic principles of European Union (EU) legislation and good practices in this area, relevant to the current situation in the Republic of Bulgaria.

The development of the Strategy will ensure the coordinated solution of the problems with the perspective of developing the administrative capacity for flood risk management in the long term.

In the preparation of **the Strategy**, the methodology of strategic planning was applied, which

also determines the main technological stages in the development of the strategy, namely:

- ✓ Analysis of the current situation;
- ✓ Determination of goals and priorities in the context of the identified problems;
- ✓ Development of alternatives (sequence of actions and measures) to achieve the stated goals;
- ✓ Choice of alternative;
- ✓ Development of a mechanism for monitoring and control of implementation.

When developing the Strategy, an approach was applied in which:

- ✓ review of various materials and documents, secondary analysis of already conducted research and prepared reports, plans and programs at the European and national level;
- ✓ review of the performed situational analysis with the active participation of the representatives of the responsible institutions;
- ✓ analysis of the general, but also consideration of the specifics and when identifying the problems and possible solutions;
- ✓ finding the balance between the identified problems related to the threat and risk of floods and the lack of financial means to solve them.

In this approach, the main problems and needs in the coordination between the responsible institutions on the territory of the Republic of Bulgaria have been identified, the priorities have been defined that enable their solution, and all planned actions/measures contribute to overcoming the identified problems, needs and weak points in the coordination.

The envisaged actions/measures contribute to:

- ✓ improving the overall coordination and cooperation between the various institutions having a role in flood risk management and increasing its effectiveness;
- ✓ improving cooperation mechanisms by clearly defining responsibilities and personalizing flood risk reduction activities;
- ✓ changes in existing or the adoption of new normative acts in the field of planning and actions to reduce the consequences of floods.

The strategy enables the coordinated solution of the problems with the perspective of developing the administrative capacity for flood risk management in the long term.

The document provides a basis for solving the identified problems related to flood risk management at the national, regional, municipal and local levels. Synchronizes policies at the national, regional and local level in accordance with the National priorities for flood risk

management, with the national catalog of measures of the Republic of Bulgaria and with the current Flood Risk Management Plan of the West Aegean region, adopted by Decision No. 1105/29.12.2016 of the Council of Ministers.

The content of the strategy document is in line with key requirements for such a document, namely: to be accessible for understanding by non-specialists and the general public, while at the same time providing an opportunity for interested and narrow specialists to obtain very detailed information through extensive appendices to the main text of the analytical part.

In addition, pilot testing of the developed Strategy was carried out in order to establish the effectiveness of the measures and activities included in the Roadmap, aimed at improving the coordination of the responsible institutions. This was followed by an analysis of the strategy's functionality, applicability and effectiveness, complemented by stakeholder consultations. As a result, opportunities for improvement and correction were identified, which were applied in the current final version of the Strategy.

It should be explicitly emphasized that in strategic planning there are many integrated actions related to the definition of the system of goals and priorities, so the final formulation of priorities may undergo subsequent revision for various reasons.

## **2. CONCLUSIONS FROM THE ANALYSIS OF THE EXISTING SITUATION**

### **2.1. Conclusions from the analysis of national legislation**

- There is a large number of legal acts regulating the duties and competencies in flood risk management of multiple responsible institutions at the national, basin, regional and local levels;
- There are frequent amendments and additions to the regulatory framework, as well as the adoption of new strategic documents after 2010, which set the direction for changes and reforms in the field of flood risk management;
- Gaps are still identified in the current regulatory framework of the Republic of Bulgaria regarding flood risk management, regardless of the frequent updates in the regulatory framework in recent years;
- The review of the regulatory framework on flood risk management in force in the Republic of Bulgaria demonstrates that the institutionalization of flood risk management is not only available, but also very clearly laid down in the Water Act and the Disaster Protection Act. The latter describes the existence of a Unified Rescue System. The specific responsibilities for prevention, response and recovery activities

- of each state, regional and municipal structure, as well as voluntary formations, legal entities and individuals are established and implemented in actions at all levels.
- Prevention: In Art. 46 of the Water Act prohibits the location of residential and villa buildings and agricultural buildings in floodable terraces of rivers and easements of hydrotechnical facilities and dam walls. In Art. 106, Art. 107 Art. 112 of the Territorial Planning Act, with the general development plans and the detailed development plans, the disaster-endangered neighborhoods and land properties, determined according to the maps prepared in accordance with the order of the regulation under Art. 6, paragraph 2 and municipal plans under Art. 9, paragraph 1 of the Disaster Protection Act, as well as the necessary preventive measures and method of arrangement and protection. Despite the clearly written regulations, there are still practices that are contrary to the established norms for preventing the risk of floods. It is necessary to exercise strict control and promote appropriate practices for land use , agriculture and forestry. In confirmation of this conclusion, a 2018 Special Report of the European Court of Auditors stated that the Flood Risk Management Plan in Bulgaria included measures not yet implemented to update planning provisions or to better integrate planning of land use in flood risk management, thereby addressing the shortcomings of current regulations.<sup>1</sup>
  - Readiness: According to Art. 17, para. 1 and Art. 65 of the Disaster Protection Act, the training of the population on the ways of behavior and action and the implementation of the necessary protective measures in the event of disasters is organized by the mayors of the municipalities by providing information in an appropriate way. According to Art. 17, para. 2 of the DPA, the bodies of the executive power, within their competence , support training by maintaining information on their website about disaster risk reduction and about the ways of behavior and about the protective measures. According to Art. 9, para. 3, item 7 of the DPA with the plans for protection in the event of disasters, the procedure for early warning and notification of the population in the event of danger or the occurrence of disasters is determined. There is the normative device for improving the preparedness of the population, informing about the risks and what to do in the event of a flood. Additional targeted campaigns, including in schools, would contribute to better awareness of the population. Public awareness of the benefits of flood risk insurance coverage is also needed (European Court of Auditors Special Report 2018).
  - The regulatory framework in the Republic of Bulgaria regulates the coordination of activities related to flood risk management carried out at the national, regional and local level, but does not regulate the coordination and interaction between the competent bodies at the basin level.

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<sup>1</sup> <https://op.europa.eu/webpub/eca/special-reports/floods-directive-25-2018/bg/#chapter3>

- In the current regulatory framework of the Republic of Bulgaria, there is no legal obligation, nor is any institution charged with the responsibility of developing and maintaining a unified flood information system.

There is a legal mechanism for financing activities for the prevention and liquidation of negative consequences of floods - according to the DPA, the financing of the activities in the annual plans for the implementation of the disaster risk reduction programs is carried out within the approved budget of the competent authorities and from other sources of funding. According to Art. 1, paragraph 2 , item 1 of the Regulations for the organization and activities of the Interdepartmental Commission for Recovery and Assistance to the Council of Ministers, financial resources may be provided for preventive activities from the disaster risk reduction programs at the municipal and regional level as complementary financing to the approved budget of the relevant competent authority and/or to the provided funds from other sources, taking into account the conditions of Article 12 of the Regulations.

In addition, according to the Water Act, riverbed conductivity maintenance activities can be included as a disaster risk reduction measure in municipal and district disaster risk reduction programs. In many cases, however, through this mechanism, institutions fail to raise sufficient funds or raise funds on time, which proves to be an obstacle to the implementation of prevention and response activities. A 2018 Special Report of the European Court of Auditors stated that national and EU funding sources were only partially identified and secured, and funding for cross-border investment was limited. FRMPs are not funding programs, therefore every amount subscribed is not necessarily available. This situation increases the uncertainty of financing flood-related actions (see paragraphs 50 to 56 ). Funding for cross-border investment has been limited (see paragraph 57 ). For the second cycle of the Floods Directive, the Commission, in its capacity as supervisory authority under the Directive, should assess and report whether sources of funding have been identified to cover the needs arising from the NAP and whether a deadline has been set for implementation in accordance with available funding; have considered transboundary investments in international river basin flood mitigation measures.<sup>2</sup>

There has been significant progress in the regulatory framework in the decentralization of actions and responsibilities at the municipal and regional level regarding the response as an element of the FRM. On the other elements of the FRM, progress is uneven.

***In addition, after the pilot testing, the following changes can be noted:***

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<sup>2</sup> <https://op.europa.eu/webpub/eca/special-reports/floods-directive-25-2018/bg/#chapter3>

- Under changes to the Water Act of 2021, dams are classified into three levels of potential hazard depending on the worst possible consequences of the release of the water stored in the dam due to dam failure or improper operation
- Updated the FRMP update process
- In the regulatory framework, it is determined that preventive activity is carried out with the aim of reducing the risk of disasters and includes the collection, storage and sharing of data on damage and losses from disasters.
- The Directorate "Water Management" in the MoEW provides a unified approach to the financing of the programs from measures in the RBMP through the EU funds, EPA and from the state budget.
- The Directorate "National Coordination Center" in the MoEW participates in the operational management of surface waters in the event of emergency situations in the event of floods or drought, carries out general and methodical guidance, coordination and control of the activities of the basin directorates.
- Establishment of Municipal Disaster Risk Reduction Councils with main tasks: develop and coordinate activities for the implementation of the municipal disaster risk reduction program; develops, revises and updates the municipal disaster protection plan; reviews and prepares an annual report to the District Council on disaster risk reduction, on the state of disaster protection on the territory of the municipality.
- Building, maintaining and expanding the system for early warning of the population and executive authorities through the use of modern technologies - Indicator: Access to the maps in real time via the Internet for monitoring the development of rainfall areas for information in situations of floods and forest fires (Performer NIMH);
- As a result of the revision and updating of the PFRA for the West Aegean Region, 17 ASPFR have been determined, of which 3 are new. They are located in the three main rivers - on the Struma River (10), on the Mesta River (6) and on the Dospat River (1).
- ASPFR passports, which summarize useful information for each ASPFR related not only to flood risk, but also to future developments, including climate change and development plans
- The early warning and disclosure are carried out by the RCU / DCU in the administrative center of the district
- Changes in the functions of the NIMH to develop and maintain a system for the unified exchange of information at the basin and national level between the Ministry of Environment and Water, the Executive Agency for the Environment, the basin directorates

for water management and the National Institute of Meteorology and Hydrology under the Minister of environment and waters;

- Projects for increasing the qualifications of responsible employees in the reaction-prevention process, as well as the population, have been implemented/are being implemented.
- Stakeholders are involved in the process of updating PFMA. Again, information deficits were found. Stakeholder activity remains relatively low.

## 2.2. Analysis of the institutional capacity of the responsible institutions

➤ The institutional capacity of the institutions as a whole is not at the required level. The only exception is DG " FSCP".

➤ Regarding the two databases (BDWAR and BDEAR), strengths and weaknesses are found. The strengths of this capacity are above all the highly qualified staff of the directorate, who use their full potential in organizing the activity, the work according to an established plan and according to the functional characteristics of the units, the satisfactory material and technical security, the good information security (hardware, software, IT specialist) and good interaction with most external institutions. The good organization of the work and the effective mobilization of the available resources also contribute to the successful fulfillment of the responsibilities related to the development of the separate documents under the FRMP. Weaknesses and problems that limit the capacity of the institution are primarily related to: insufficient quantitative assurance with personnel whose number and structure does not fully correspond to the growing volume, the lack of specialists with engineering education, complexity and urgency of the tasks; low wages; lack of specialized training and insufficient systematicity in raising qualifications as part of career development; limited career advancement opportunities.

➤ These characteristics also apply to the capacity of BDs to fulfill their assigned functions and responsibilities in relation to flood risk management.

➤ In municipal administrations, the problems regarding institutional capacity are the most serious. The level of provision with personnel is satisfactory, the level of material, technical and informational provision is insufficient. No strong points to be found. Weaknesses are lack of knowledge of the specifics of the obligations in relation to FRM, poor knowledge and lack of awareness regarding changes in the legal framework also creates prerequisites for ineffective implementation of flood risk management responsibilities.

➤ The coordination between the institutions is still not at a high level and there is insufficiently high efficiency of the joint actions for prevention and liquidation of the

consequences of the harmful effects of water.

- There are difficulties in the work of the responsible institutions caused by:
- Regulated interactions, commitments and responsibilities of institutions in joint actions are missing.
- There is no mechanism to regulate the obligation and manner of providing information related to flood risk management. This, in turn, leads to untimely provision, in insufficient scope, and in some cases to tacit refusal of assistance. To a large extent, this depends on the good will and willingness of the institution to provide it.
- Insufficient awareness of the employees about the powers and the specific role that the other institutions have. Flood risk management requires active inter-agency work, but the officials involved are not always aware of who takes responsibility for certain actions; Often, the DB is charged with functions of providing financial means for the implementation of PoM by FRMP;
- Inadequate assessment and sometimes downplaying of responsibilities. Underestimation of problems leads to the risk of non-fulfillment or partial fulfillment of tasks. A result of this attitude towards flood risk management issues is a breakdown in trust between institutions;
- Inability of employees in state institutions to prioritize responsibilities. In the presence of multiple responsibilities, the priority role of flood risk management issues is not considered;
- The lack of feedback from a given institution leads to inadequate reactions by other institutions.
- The absence/shortage of material and personnel resources makes the work process cumbersome and poses serious challenges to the officials responsible for acting. This leads to tension between institutions when problems arise.
- The lack of financial security and the shortage of personnel often prove to be an insurmountable obstacle for the effective performance of the institutions' duties.

### **2.3. Pilot testing and analysis of the functionality, applicability and effectiveness of the Strategy**

Pilot testing and analysis of the Strategy's functionality, applicability and effectiveness confirm these findings with the following addition:

- Turnover of experts in the institutions and especially in the municipal administrations;

- Lack of specialists with engineering education;

## 2.4. Conclusions from the review of international experience

Practice from foreign experience in flood risk management and spatial planning is discussed in the Appendix, with an emphasis on improving insurance options. The conclusions were considered when listing the specific measures and activities in the road map to the strategy.

### 2.5. Proposals from the consultations held with the interested parties

As a result of meetings held with interested parties, the following main conclusions were drawn about the necessary prerequisites for the implementation of the strategy and the main problems that it must solve:

Prerequisites that guarantee a timely response:

- ✓ Each municipality has a developed Disaster Protection Plan that describes all the response steps to be followed in the event of a flood
- ✓ A working District Security Council - to which there is a 24/7 emergency telephone number to which signals can be sent
- ✓ Convocation of the headquarters by the mayor of the municipality upon receipt of reliable information and data that a disaster is occurring, has occurred or is in danger of occurring. The headquarters, under the direction of the mayor, analyzes and assesses the situation based on information collected through all possible channels, and also assesses the need to declare a "state of emergency" and implement the municipal disaster protection plan.
- ✓ Periodic checks to describe critical areas.

Identified issues:

- ✓ Insufficient financial resources in the Regional and municipal administrations aimed at prevention
- ✓ Insufficiently targeted and urgently available financial resources, complex procedures for obtaining resources
- ✓ The importance of Municipal Councils in disaster risk reduction is underestimated
- ✓ Existence of duplicative activities attributed to different institutions under different acts.
- ✓ Low staffing of the responsible institutions and lack of continuity, insufficient pay
- ✓ It is not always possible to synchronize well the documents regulating the organization of the territory and (GDP/DDP) and FRMP, due to time difference
- ✓ Different planning documents are not well known in individual institutions;

- ✓ Need to include dams in flood threat and risk mapping;
- ✓ Need for accessible and adequate data on hydrology and climate. Lack of measuring stations for certain territories and river basins - therefore, substitute data from stations in river basins with similar characteristics are provided;

### 3. SWOT analysis

SWOT analysis is based on the idea of separating the object of strategic analysis from the environment in which it operates.

The purpose of the Strategy is to bring out the interactions between the institutions in the application of their regulated legal powers and obligations.

With such a large number of institutions, between which the process of communication and interaction should be improved, it is inevitable to first analyze the strengths and weaknesses, and to differentiate the environment into "opportunities" and "threats".

**Strengths** are a resource, skill or other advantage that the sector possesses. A strength is a distinctive competence that gives a comparative advantage.

**Weaknesses** represent limitations or shortages of resources, skills and capabilities that seriously hinder the development of the sector.

**Opportunities** represent the most favorable elements of the external environment. These are favorable externalities that the sector benefits from or could benefit from.

**Threats** are the most unfavorable segments of the external environment. They place the greatest barriers to the current or future (desired) state.

#### Strengths

- Presence of well-established state institutions at the central and basin level with traditions in the field of flood risk management;
- A model of moderate centralization is normatively regulated;
- All institutions that should be included in the process of improving communication and interaction between prevention and response have been identified;



- Possession of good administrative capacity of part of the institutions;
- Motivation of existing administrative capacity for development;
- Activity on the part of the institutions for conducting a transparent policy.

### Weaknesses

- A large number of legal acts regulating the duties and competences in flood risk management of multiple responsible institutions at the national, basin, regional and local level;
- Lack of understanding of official duties and powers, as a result of insufficient administrative experience;
- Gaps in knowledge and application of flood risk management regulations;
- Insufficient technical and material resources to fulfill the legal obligations of prevention and response;
- Weak communication and coordination with other institutions.
- Insufficient financial assurance of flood risk management activities;
- Low level of interaction between the scientific community, administration and political leadership
- Insufficient degree of connectivity between individual subsystems and structures involved in flood risk management activities;
- Insufficiently well-trained personnel and low technological culture in central and local government structures;

**The opportunities of the external environment** - they can be relied on for the implementation of the Strategy, and which are important to be used.

### Opportunities

- Availability of diverse funding sources (operational programs and other international funding programs and schemes) related to flood risk management;
- Availability of opportunities to exchange experience and share good practices in the field of flood risk management, both at the stage of prevention and at the stage of protection;
- Availability of opportunities for the participation of scientific circles and NGOs, as well as NATO structures in the Republic of Bulgaria;

- Using the capabilities of the Center for Aerospace Observation, through up-to-date satellite data.

Threats of the external environment – their impact needs to be minimized and considered in advance.

### Threats

- Insufficient activity and interest of officials at the various levels responsible for the flood risk management process participating in the various councils and meetings;
- Insufficient experience due to unclear understanding of the role and importance of each institution in the process;
- Lack of specific methodologies to address climate change risks in flood risk management;
- Lack of a prescribed legal procedure for accounting for the relationship between the priorities set in the FRMP and the allocation of financial resources;
- Insufficient financial resources to implement prevention and response activities/measures;
- The tense geopolitical situation, which reflects on the socio-economic processes in the country

#### **4. Strategic goals and priorities in the interaction of the responsible institutions to reduce the risk of floods. Setting goals and priorities**

The determination of the goals and priorities was made on the basis of the analysis of the legislation in the Republic of Bulgaria for prevention, preparedness and response, the analysis of the current situation, the analysis of foreign experience and the analysis of interaction between the institutions at the stage of prevention and response. As a result, it was established that in the Republic of Bulgaria the situation in terms of coordination and interaction between institutions is cumbersome, due to the large number of participants in the process. In some of the EU countries, apart from the clear separation of responsibilities between a small number of institutional participants, there are also participants from the private sector. This practice contains a potential that should be involved in improving the process of interaction of the responsible institutions to reduce the risk of floods.

**The strategy aims to achieve the following main goals:**

**STRATEGIC OBJECTIVE No. 1: Increase the effectiveness of institutions in the implementation of flood risk management activities at all levels**

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Priority 1.1. Creation of normative and organizational prerequisites for improving coordination between individual institutions

Priority 1.2. Improved institutional framework ensuring clarity and specificity in flood risk management responsibilities.

Priority 1.3. Active partnership and cooperation between bodies engaged in flood risk management activities

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Measures –Improving the environment for the implementation of legal powers, regulation of clear roles, clear regulation of interaction, commitment and responsibility, coordination and coherence of the process

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**STRATEGIC OBJECTIVE #2: Enhance administrative/institutional capacity for flood risk management**

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Priority 2.1 Improvement of the coordination and structures of the administrations involved in FRM at the district, basin and municipal level

Priority 2.2 Development of the qualifications of personnel engaged in flood risk management

Priority 2.3 Improving the material, technical and information security for carrying out flood risk management activities

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Measures - improving qualifications, material and technical base

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**STRATEGIC OBJECTIVE #3 Introduction of flood risk financial management policies**

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Priority 3.1 Improved understanding of the current allocation, use and funding needs for the FRM

Priority 3.2 Coordinated financing of flood risk reduction activities

Priority 3.3 Strengthen investment planning for flood risk reduction

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Measures - prioritizing funding needs, redistributing funds, using diverse sources of funds, implementing new funding mechanisms, publicity and transparency of the process, structuring the funding allocation process, providing it with analysis and creating flexibility with options for redistribution of funds.

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**STRATEGIC OBJECTIVE No. 4 Achieving coherence in the implementation of sustainable development policies, insurance, adaptation to climate change and flood risk reduction**

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Priority 4.1 Strengthening the partnership with scientific communities to conduct specialized research for the purposes of developing, monitoring and evaluating policies and programs of adaptation to climate change

Priority 4.2 Use of insurance options

Priority 4.3 Implementation of sustainable development policies

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Measures - Strengthening the partnership with the scientific community to conduct specialized research for the purposes of developing, monitoring and evaluating climate change adaptation policies and programs, increasing the insurance culture of the population and working together with insurance companies to develop appropriate insurance packages, creating partnerships and disseminating information

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**STRATEGIC OBJECTIVE #5: Improved integrated flood risk management**

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Priority 5.1 A sustainable flood risk management data system

Priority 5.2 Effective functioning of cooperation and information exchange mechanisms

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Measures: Improve channels and mechanisms for information sharing and feedback, exchange of information and widening the scope of data used

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Achieving the goals can be achieved after setting specific priorities in the work of each institution, considering that activities related to flood risk management are one of many for each administration. The same requires prioritization as a result of understanding and evaluating the importance of the problem.

When the roles of each participant are clear, so will the responsibilities. Achieving the goals for improving coordination and interaction between institutions can be achieved by implementing

specific actions, namely:

1. Overview of issues;
2. Establish an understanding of the role of each institution involved in the flood risk management process;
3. Determination of goals and measures to achieve them;
4. Preparation of an action plan;
5. Financial resources for implementing the measures;
6. Testing the plan.

The review of the legislation, issues and obligations of each institution brings out as one of the problems ignorance regarding changes in the legal provisions and not knowing the specifics of the obligations in relation to flood risk management. The role of the municipalities, both at the stage of prevention and at the stage of protection, is of essential importance, which is why the need to build administrative capacity should be one of the main objectives of the Plan.

The measures that can be used to achieve the goals of the identified priorities are:

- legislative changes in the regulations of the BD and the Municipal Administrations;
- Ensuring continuity and preventing loss of expertise and past experience;
- Ensuring effective coherence, consistency and continuity of responsible structures;
- overcoming the formalism in preparing the documents and plans of the responsible institutions;
- provision of financial resources necessary to fulfill the regulated legal obligations for each responsible party;
- trainings - internal and, if possible, participation in thematic meetings and seminars, as well as preventive exercises and trainings on disaster protection - both at the national, regional and municipal level.

Guided by one of the main conclusions in the National Strategy for Disaster Risk Reduction 2018 - 2030, namely "**...disasters and their negative consequences are an indicator of poor planning, unsustainable economic and social processes and a poorly prepared population**", it follows in the work for each involved institution to be prioritized by implementing the following recommendations:

- the competences of the individual institutions are clearly spelled out in the by-laws that regulate their structure and, more specifically, the responsibilities in the field of protection against the harmful effects of water. For this purpose, the changes that have occurred in

recent years in the Water Act and the Disaster Protection Act should also be reflected in the relevant zoning regulations of the administrations related to the topic of flood risk and protection, thereby settling missing or unclearly differentiated functions in the area under consideration. The Organizational Regulations for the activity, structure, organization of work and numerical composition of the basin councils, issued by the Minister of Environment and Water, should be updated (Official Gazette No. 25 of March 18, 2003 );

- the commitments of the municipalities in the management of FRM to be properly organized and secured through:
  - assignment of functions to the structural units in the municipal administration in the organizational regulations for the organization and activity of the municipal administration - powers of the authorities, structure and functions of the municipal administration, functional characteristics of the municipal administration, organization of work in the municipal administration, number of personnel of the municipal administration, interaction between the structures of the municipal administration, etc.
  - assignment of duties and responsibilities for disaster risk management, including disaster risk management, to personnel in their job descriptions;
  - provision of personnel with appropriate quantitative and qualitative characteristics and in particular: total number, educational structure, share of management personnel, gender and age structure; qualification improvement through training; recruitment, placement and retention practices and issues; assessment of future needs in the short and medium term;
  - availability of the material, technical and information security for the implementation of the functions - premises, equipment, technique, hardware and specialized software;
  - clear regulation of the ways and forms of interaction with other institutions related to flood risk management, especially to the preparation and implementation of strategic documents - FRMP;
  - to periodically improve the qualifications of experts, expanding the circle of participating employees and looking for different forms of training and improving knowledge and skills;
  - search for additional opportunities for resource provision (personnel, appropriate equipment, information security, means of transport, additional pay) through participation in projects under various programs financed with European funds.

## 5. Prerequisites for achieving the stated goals

The steps to ensure good interaction between the institutions will be implemented through the following actions:

- Ensuring prior coordination of positions between institutions on specific issues.
- Drafting common proposals and common positions on substantive issues related to flood risk management.
- Coordination of positions and preparation of common decisions with representatives of all institutions with competencies in flood risk management.
- It is expedient for the institutions at the territorial level to organize regular meetings with each other, at which to specify the possibilities and operational contact persons in case of a need for a quick reaction and/or joint activity of the institutions.
- Detailed familiarization of the employees of all responsible institutions with the powers and duties they have in flood risk management work. It is also necessary to familiarize themselves with the powers of other responsible institutions and actively seek their assistance in matters of flood risk management. floods. In order to provide adequate guidance, it is necessary to be informed about the available services and information provided by the other institutions.
- Regular and timely provision of feedback between the various institutions involved in flood risk management work. The need for an urgent response to floods and the rapid change of circumstances requires the use of means that ensure rapid communication (telephone, e-mail), which precede official correspondence between institutions, in order to take timely measures and coordinate actions.
- In its capacity as a competent authority, each institution should strictly fulfill its commitment to follow up the implementation of the measures of the National Disaster Response Force, especially those for the protection of the population and critical infrastructure.
- Do not allow any delay in acting by the institutions pending official correspondence, especially in the event of a flood.
- In order to better coordinate the flood risk management work, it is necessary to draw up an instruction in each institution outlining the distribution of roles and actions of the responsible specialists

- Systematic monitoring of the implementation of the programs of measures of the National Emergency Management Agency and, based on its results, to look for opportunities to compensate for delays or possible non-implementation. To provide written instructions to the authorities responsible for the implementation of the measures, including their implementation control.
- Given the need to carry out many activities in a short time and with a view to reducing bureaucracy, flood risk management officials should have greater autonomy in risk assessment procedures, respecting the principle of good communication, coordination and cooperation with other institutions directly involved in protection from the harmful effects of water;
- Priority implementation of the commitment of departmental state bodies to provide financial support with funds from the state budget for the measures from FRMP, as long-term planning is undertaken for this commitment, and not relying mainly on projects.

**Here, the feedback link reaction - prevention and the need to improve the interaction process should be brought out.**

In the event of a flood, the institutions described above in the reaction stage are activated. The awareness of the occurrence of a flood, regardless of its scope, should be analyzed by the database, with the aim of taking follow-up actions in the updating of the FRMP for the second management cycle. In this way, the actions of the response stage can improve the prevention stage in a future period, respectively the flood risk management.

## **6. Sequence of actions and measures to achieve the set goals.**

In the present road map, which lays out the action plan for the implementation of the strategy, all measures are laid down with a period of 2023-2025, arranging the specific activities chronologically according to their logical sequential course. The measures are clustered according to their time distribution suggested in strategy testing as follows.

### **November-December 2023**

Measure: Diagnostics and assessment of legislation in the field of flood risk management in the Republic of Bulgaria, SO1, P1.1.

### November 2023- February 2024

Measure: Ensuring coordination and coherence in the process of updating the policies and instruments under the FRM , SO1 , P1.1

### January 2024 - December 2024

Measure: Regular review and planning of investments, SO3 , P3.3

Measure: Search for additional opportunities to increase costs for flood risk reduction at the prevention stage, SO3 , P3.3

### February 2024- October 2024

Measure: Ensuring a clear regulation for interaction, commitment and responsibility of the institutions, SO1 , P1.2

### October 2024- December 2024

Measure: Regulation of clear roles and responsibilities of the employees engaged in FRM , SO1 , P1.2

Measure: Development of a simplified inter-institutional system for exchange of information and dialogue on the issues of FRM , SO1 , P1.3

### November 2024

Measure: Improvement of the material and technical base at the municipal level, SO2 , P2.3

Measure: Ensuring information security, SO2 , P2.3

### 2023-2024

Measure: Improved interaction between scientific organizations and state institutions in the field of FRM, SO4 , P4.1

Measure: Implementation of good practices, SO4 , P4.1

Measure: Promoting the use of insurance products for protection against floods and climate change, SO4 , P4.2

Measure: Better cooperation between insurance companies, the state and other organizations involved in flood and climate risk management, SO4 , P4.2

Measure: Encouraging insurance companies to adapt insurance products and insurance coverage to flood and climate risks, SO4 , P4.2

Measure: Implementation of land use policies in sync with the FRM policy , SO4 , P4.3

Measure: Expansion of the use of data from administrative sources, SO5 , P5.1

### November 2024 - February 2025

Measure: In-depth assessment of the allocated, used and necessary resources for FRM in the Republic of Bulgaria, SO3 , P3.1

### November 2024 – December 2025

Measure: Introduction of a unified strategic approach and instruments for effective financial management of flood risk, SO3 , P3.1

Measure: Introduction of a unified strategic approach and instruments for effective financial management of flood risk, SO3 , P3.2

Measure: Coordinated allocation of funds and implementation of projects for FRM at the European and national level, SO3 , P3.2

Measure: Increasing transparency and publicity in the process of funding of the FRM, SO3 , P3.2

### January 2025 - April 2025

Measure: Increasing the efficiency in the work of the regional and municipal administrations in implementing the policy on the FRM, SO2 , P2.1

Measure: Improving the understanding of flood risk in all its dimensions by the competent authorities, SO2 , P2.1

Measure: Assessment of the needs to increase the qualifications of the staff employed by the FRM at different levels, SO2 , P2.2

### May 2025 - August 2025

Measure: Increasing the capacity of employees at the regional and municipal level, engaged in the FRM, SO2 , P2.2

2023 -2025

Measure: Flood Data System Management, SO5 , P5.1

Measure: Improve the sharing of basic information related to floods, SO5 , P5.2

FRM data system in supporting management decision-making, SO5 , P5.2

Measure: Improvement of the feedback system between the institutions, SO5 , P5.2

Measure: Improving the public's understanding of the FRM measures and the competences of the institutions SO5 , P5.2

In the interim evaluation of the current strategy, the degree of implementation and the effectiveness of the achieved results should be assessed and guidelines should be given for updating the road map for the remaining period of implementation of the strategy with a horizon of 2030.

## 7. Potential sources of financial assurance

The following potential sources of funding for measures/activities related to prevention and response to flood protection in the country have been identified:

### ➤ State budget:

Funds from the state budget are mainly spent in several directions:

- targeted subsidies from the state budget for activities related to protection from floods;
- administration costs related to water management;
- national public co-financing of EU projects.

### ➤ Municipal budgets

Through their budgets, municipalities finance a range of flood prevention and response activities. These are activities related to their obligations by law: cleaning and shore strengthening activities - incl. corrections of river beds, corrections of ravines; anti-erosion activities, etc.

### ➤ Enterprise for the management of environmental protection activities (EMEPA )

EMEPA is a legal entity established pursuant to Art. 60 , para. 1 of the Environmental Protection Act, and has the status of a state enterprise within the meaning of Art. 62 , para. 3 of the Commercial Act. The main subject of activity of the EMEPA is the implementation of environmental projects and activities in implementation of national and municipal strategies and programs in the field of the environment. For this purpose, the EMEPA :

- provides grant-in-aid financing for environmental projects of municipalities;

- grants loans for financing environmental projects to municipalities, individuals and legal entities (interest-free or low-interest loans);
- provides subsidies to cover part or the full amount of interest due on bank loans granted for the implementation of environmental projects and objects.

The following are financed:

- investment environmental projects;
  - non-investment projects and activities for environmental protection and restoration;
  - MoEW projects for the development and maintenance of the National System for Monitoring and Control of the Environment and Water.
- The Interdepartmental Commission for Recovery and Assistance to the Council of Ministers

The organization and activity of the Interdepartmental Commission for Recovery and Assistance to the Council of Ministers, as well as the procedure for applying for financial resources and the criteria for evaluating received requests for funding are regulated by regulations. The Commission adopts a decision to grant funds from the reserve for unforeseen and/or urgent expenses in the part for preventing, controlling and overcoming the consequences of disasters and controls their targeted spending. The decision of the commission is approved by the Council of Ministers. The funds are provided to finance:

- preventive activities and response preparation activities from the programs under Art. 6a , para. 2, items 2, 4 and 5 of the DPA, as supplementary funding to the approved budget of the relevant competent authority and/or to the funds secured from other sources;
- unforeseen expenses for rescue and urgent emergency works in case of disasters of the involved forces and means of the unified rescue system;
- urgent restoration works;
- restitution aid under Art. 55, para. 3 of the DPA;
- control checks on the implementation of the commission's decisions;
- checks on complaints and reports;

- compensation to individuals and legal entities for the damages actually caused to them during or on the occasion of the performance of legally established actions for protection in the event of disasters under the conditions, in the order and in the amounts determined by the regulations;
- indemnification of the bodies of state power, local self-government, legal entities and citizens who have provided, at the request of the authorities for fire safety and protection of the population, their own rescue, fire-extinguishing, transport, communication and other technical means, in the event of disasters, fires and emergency situations .

The limit for the relevant year for financing the above-mentioned activities is determined by the Council of Ministers with the decree under Art. 92, para. 1 of Public Finances Act. The provided funds are used as intended in accordance with the decision of the commission. A change in the purpose of the provided funds is allowed at the request of the executive authorities after a decision of the commission, approved by an act of the Council of Ministers. The accounting of the provided funds is carried out in accordance with the Public Finances Act and the regulations under Art. 54, para. 6 of the Criminal Code. In the case of stage financing, the provision of additional funds for the next stage is carried out after submitting reports on the incurred expenses to the commission and to the Minister of Finance.

➤ Operational program "Environment" 2021-2027

Directly targeting flood risk prevention is Priority 4 "Risk and Climate Change" (Programme Version 1). In relation to the identified extended scope of natural disaster threats and strategic objectives at the national level, the following measures are permissible:

- Flood and drought risk prevention and management measures (including green infrastructure (if applicable) in combination with gray infrastructure);
- Risk analyzes and implementation of prevention and protection measures in processes related to the movement of earth masses - landslides, collapses, erosions, abrasions , etc. (including environmentally friendly infrastructure (if applicable) in combination with gray infrastructure) , incl. those on the national road network, identified as a threat to the safety of the population's movement on the roads;
- Studies and analyzes aimed at surveying the consequences of climate change and their impact on the water resources of the country;

- Forest fire risk prevention and management measures;
- Measures to manage the risk of natural disasters and to prevent the risk to the life and health of the population (including increasing the preparedness of the population and response forces in case of floods, fires and earthquakes) - focus on building capacity for actions of the responsible authorities and the population during natural disasters in accordance with the strategic objectives regarding the creation of resilience to climate change and increasing the level of awareness of the population about the said disasters.
- Construction of new and optimization and/or expansion of existing warning, monitoring, reporting systems; forecasting and signaling; development of digital models and analyzes and forecasts in relation to climate change;
- Implementation of studies and evaluations in connection with the preparation of the FRMP for the period 2028-2033;
- Increasing the capacity of the responsible units regarding policies related to risk prevention and management and climate change policies; raising awareness; training and information-educational measures for the formation, implementation and fulfillment of the objectives of these policies.

Eligible beneficiaries: municipalities, regional administrations, Road Infrastructure Agency, MRDPW, structures of/in the MoEW, NIMH (for forecasts, analyses, models in relation to climate change; and training activities), GD FSCP - Ministry of the Interior.

➤ Territorial cooperation programs

European Territorial Cooperation, financed by the European Regional Development Fund (ERDF), is designed to support the harmonious and balanced integration of the EU territory by supporting cooperation in areas of community importance at cross-border, transnational and interregional level.

The cross-border cooperation program INTERREG VA Greece - Bulgaria 2014-2020 was created within the framework of the European strategy for smart, sustainable and inclusive growth and to achieve economic, social and territorial cohesion.

The regions covered by the program are the regions of Haskovo, Smolyan, Kardjali and Blagoevgrad on the territory of the Republic of Bulgaria and the prefectures of Evros, Xanthi, Rhodope, Drama, Kavala, Thessaloniki and Serres on the territory of the Republic of Greece.



The total budget of the Program is 130,262,833 euros, of which the funds from the European Regional Development Fund are 110,723,408 euros (85%) and 19,539,425 euros (15%) - national co-financing from the two partner countries.

The program finances projects under four priority axes: "Competitive and innovative cross-border region", "Sustainable and climate-adaptable cross-border region", "Cross-border region with improved interconnection", "Cross-border region with a high degree of social inclusion".

The target groups and main types of beneficiaries are national, regional and local authorities, as well as non-governmental organizations.

➤ European Union Solidarity Fund (EUSF)

The European Union Solidarity Fund ( EUSF ) was created to respond to major natural disasters and as an expression of European solidarity with regions affected by disasters within Europe. The fund was created as a result of the severe flooding in Central Europe in the summer of 2002. Since then, it has been used in 80 different disasters caused by natural disasters such as floods, forest fires, earthquakes, storms and drought. To date, the Fund has provided assistance to 24 different European countries in the amount of more than 5 billion euros.

➤ National plan for recovery and sustainability of the Republic of Bulgaria

The plan does not directly target the issue of flood protection, but foresees investments for activities directly or indirectly related to the set measures:

Digitization of information arrays in the administration containing register data;

Building a structure for the management of the National Ecological Network;

Integration of the ecosystem approach and application of nature-based solutions in the conservation of protected areas of the Natura 2000 network;

Restoring key climate ecosystems in fulfillment of the EU Biodiversity Strategy and the objectives of the European Green Deal.

ICRA , reported in the National Strategy for Disaster Risk Reduction 2018-2030, cannot be overlooked.

## 8. Choice of alternative

In order to achieve the objectives, set out in the Strategy, targeted measures (actions) should be undertaken, which have different content, scope and sequence over time. In the process of identifying the specific measures, possible alternatives were considered, conditioned by the different specifics of the different stages of the flood risk management in the country and the specifics of the individual institutions. In general, the considered alternatives can be characterized as:

1. Coordination and cooperation between the various institutions having a role in flood risk management at the stage of prevention and response **while preserving the existing realities;**

2. Coordination and cooperation between the different institutions having a role in flood risk management at the prevention and response stage with partial improvement of functions and roles, or **strengthening the capacity of only part of the individual institutions, or only in relation to one of the stages of management of flood risk;**

3. Coordination and cooperation between the various institutions having a role in flood risk management at the prevention and response stage **while strengthening the functions and roles of each of the individual institutions.**

**The aim of each strategy is to achieve the maximum possible result, in this case referred to in alternative 3, on the basis of which the** shape of the Strategy for the connection between the prevention, the response for flood protection of the institutions from the Bulgarian side was determined in the medium and long term. Clearly defining the functions and strengthening the role of individual identified parties in the flood risk management process will ensure institutional accountability and effectiveness of overall coordination and cooperation in flood prevention and response when events occur, which is of critical importance to the population, the economy and the environment.

The studies carried out between the various institutions (interested parties) made it possible to prefer **alternative 2 from the indicated alternatives** at the moment.

The process of strengthening the functions and roles of all institutions having a role in flood risk management at the prevention and response stage is essential to improve inter-institutional coordination and cooperation, the improvement of which would solve the identified problems and areas mainly reduced to :

- Clear regulation of functions and roles of individual institutions - listing specific and clear competences of individual institutions in the by-laws that regulate their

structure, and more specifically the responsibilities in the field of protection from the harmful effects of water; reflecting the legal changes that have occurred in recent years in the relevant planning regulations of the administrations related to the topic of flood risk and protection; clearer regulation of coordination and communication functions in interdepartmental acts.

- Maintenance of databases, provision and exchange of information - harmonization of the information systems of the various institutions; publishing the information on the websites of the relevant institutions; strengthening coordination and communication between individual structural units operating at all levels of flood risk management; identifying the type and scope of databases maintained in each institution and determining opportunities for harmonization in a single national flood risk management system; regular and timely provision of feedback/information between the various institutions involved in flood risk management work; improving the awareness and preparedness of the population.
- Strengthening the administrative/institutional capacity - solving problems with personnel security; assigning duties and responsibilities under the FRM to the staff in their job descriptions; creation of opportunities for increasing the qualifications of employees; determining priority areas for training to acquire specific knowledge and expertise; organizing regular meetings between the institutions.

The selected alternative seeks, through a smooth transition and decision-making based on the evaluation and monitoring of actions already taken, to solve the identified problems. The planned actions in the short and medium term are clearly and precisely regulated, with a view to achieving sustainability of inter-institutional coordination and interaction in the flood risk management process. In the adjustment of the strategy to 2023, this choice of alternative is preserved, as it remains the most realistic both in terms of time and in terms of financial possibilities.

## **9. Development of a mechanism for monitoring and control of implementation**

The implementation monitoring and control mechanism aims to track whether the activities and measures set out in the strategy are carried out in full, within the stipulated time and whether they lead to the achievement of the identified strategic goals.

For this purpose, the implementation of the strategy should be accompanied by an interim evaluation, which is developed in the middle of the implementation period and evaluates the initial results of the implementation, the degree of achievement of the relevant objectives, the

effectiveness and efficiency of the resources used, as well as conclusions and recommendations for updating the relevant document.

No later than one year after the end of the strategy period, an ex-post evaluation should be prepared, which should include:

- Evaluation of the degree of achievement of the goals and the sustainability of the results;
- Overall Impact Assessment;
- Evaluation of the effectiveness and efficiency of the resources used;
- Conclusions and recommendations regarding the interrelationship between prevention and response for flood protection of institutions from the Bulgarian side on Bulgarian territory

**The assessment of the implementation of the goals set in the Strategy is carried out through:**

1. Rapid assessments (rapid appraisal / assessment); performance audit; benchmarking; \_
2. The evaluation of the performance by experts internal to the Contracting Authority's administration is carried out through quick evaluations of the indicators, using the "matrix of indicators" method;
3. The evaluation of the performance by an expert external to the administration (independent consultant) is carried out through an audit of the performance and evaluation of indicators (benchmarking).

**Reports should provide information on:**

1. Basic provisions for the work performed;
2. The progress achieved in the implementation of the goals and priorities;
3. The problems that have arisen and the measures taken;
4. Forecast of the expected fulfillment of the goals and priorities in the period of testing the Strategy within one calendar year;

**Monitoring as a process includes the following stages:**

1. Preparation;
2. Collection of information - according to the determined indicators and by polling interested parties.
3. Analyzing information and determining strengths and weaknesses, relevant opportunities and threats;
4. Preparing recommendations for updating;
5. Development of an action plan for the implementation of the measures laid down in the strategy.

**Indicators**

The basis of the evaluations for tracking the implementation of the strategy are the established indicators that track the results of the implementation of the specific activities in the road map.

**10. Conclusion**

The proposed Strategy sets the basis/framework for establishing and improving the interrelationships between Bulgarian institutions in the process of prevention and response for flood protection. In the process of its updating, it was discussed with the interested parties and considered with the current changes in the normative, strategic documents, implemented projects in this direction, as well as the current geopolitical situation, in order to be able to adapt the set framework and move to its effective implementation.

Ensuring effective interaction in the implementation of vertical (between municipal, regional and national levels of government) and horizontal (between individual administrations, ministries and departments, the private sector and the scientific community) policies to improve coordination and interaction is key to achieving integrated governance of flood risk. For this purpose, it is necessary that the activities be effective, coordinated, resourced, cover all responsible institutions, accessible and understandable for all levels.

## APPENDIX

### 1. Analysis of normative acts and sub-normative documents through which flood risk management activities are ensured and proposals for future steps

The main regulatory documents, incl. laws, ordinances, regulations, instructions, plans, etc., regulating the functions and competences of the responsible institutions in the Republic of Bulgaria, working in the field of flood risk management, are:

- **Water Act** (promulgated SG No. 67 of July 27 , 1999 , last amended SG No. 86 of October 13, 2023 );
- **Disaster Protection Act** (promulgated SG No. No. 102 of December 19, 2006. , last \_ change and add. DV. No. 60 of July 7, 2020. );
- **Ministry of Internal Affairs Act** (promulgated SG No. 53 of June 27, 2014, amended SG No. 98 of November 28 , 2014 , amended and supplemented SG No. 58 of July 23 , 2019 );
- **Territorial Planning Act** (in force from 31.03.2001, Promulgated SG No. 1 of January 2 , 2001 , amended and supplemented SG No. 17 of February 25 , 2020 , amended SG No. 84 of October 6, 2023 .
- **Forests Act**( Promulgated SG No. 19 of March 8 , 2011 , last amended and supplemented SG No. 67 of August 4, 2023 );
- **National strategy for management and development of the water sector in the Republic of Belarus** , adopted by the Decision of the National Assembly of 21.11.2012;
- **National strategy for reducing the risk of disasters in the territory of the Republic of Bulgaria 2018 - 2030**;
- **Strategy for the development of voluntary formations for the prevention or control of disasters, fires and other emergency situations in the Republic of Bulgaria for the period 2021 - 2030**
- **National Disaster Protection Plan** (adopted by Decision No. 973 of the CU of 2010, supplemented by Decision No. 868 of the CU of 2011, Decision No. 767 of the CU of 2012, by Decision No. 509 of the CU of July 17, 2014 d.);

- **The national strategy for the development of the forestry sector in the Republic of Bulgaria for the period 2013 - 2020.**
- **Strategic plan for the development of the forest sector 2014-2023 ;**
- **Ordinance on the terms and conditions for carrying out the technical and safe operation of the dam walls and the facilities attached to them and for carrying out control over their technical condition** (in force from 31.01.2020. Adopted by PMS No. 12 of 28.02.2020, Promulgated SG No. 9 of January 31, 2020 );
- **Ordinance on the terms and conditions for the functioning of the national system for early warning and notification to the bodies of the executive power and the population in the event of disasters and for notification in the event of an air hazard (adopted by PMS No. 48 of 01.03.2012, Promulgated SG No. 20 of March 9 , 2012 , amended SG No. 60 of July 22, 2014 , amended SG No. 47 of June 24 , 2022 .**
- **Ordinance on the conditions, procedures and authorities for analysis, evaluation and mapping of disaster risks** (adopted by PMS No. 264 of 25.10.2012, Promulgated SG No. 84 of 2 November 2012 , amended SG No. 9 of January 31 , 2014 , amended and supplemented SG No. 44 of June 10, 2016 , amended SG No. 55 of July 7 , 2017 );
- **Ordinance on the conditions and procedure for conducting evacuation and dispersion** (adopted by PMS No. 337 of 20.12.2012, Promulgated SG No. 103 of 28 December 2012 , amended SG No. 36 of 13 May 2022 );
- **Ordinance No. 8121z -1006 of 24.08.2015 on the procedure for the implementation of PG and SD by the fire safety and population protection authorities of the Ministry of Internal Affairs ( in force from 01.09.2015, issued by the Minister of Internal Affairs, amended and supplemented SG No. 103 of December 10, 2021);**
- **Regulations for the organization and activities of the Water Coordination Council ( Adopted by PMS No. 213 of 19.08.2016, No. 53 of 8.07.2022, in force from 8.07.2022)**
- **Regulations for the structure and activities of the Supreme Advisory Council on Water ( Promulgated by SG No. 39 of April 16 , 2002 , amended by SG No. 35 of May 3 , 2011 , amended and supplemented by SG No. 78 of 12 October 2012 , amended and supplemented SG No. 42 of May 10, 2013 );**
- **Regulations for the organization and activities of the Ministry of Internal Affairs (in force from 22.07.2014, Adopted by PMS No. 207 of 18.07.2014, Promulgated SG No. 60 of 22 July 2014 , amended and supplemented SG No. 85 of October 29, 2019 );**

- **Regulations for the organization and activities of the Disaster Risk Reduction Council of the Council of Ministers to support the formation and implementation of state policy in the field of disaster protection - adopted by Decree No. 305 of November 17, 2016**
- **Organizational regulations of the Ministry of Education and Culture** (adopted by PMS No. 208 of 27.09.2017 , promulgated SG No. 80 of 6 October 2017 , amended SG No. 68 of 2023);
- **Regulations for the activity, organization of work and composition of the basin directorates, issued by the Minister of Environment and Water** ( promulgated , SG No. 7 of 21.01.2011, last amended and supplemented, No. 58 of 31.07. .2012, effective from 01.08.2012);
- **Organizational regulations of the regional administrations** (Adopted with PMS No. 121 of 07/05/2000 Pron . DV. No. 57 of July 14 , 2000 , amended, no. 54 of 16.06.2020)
- **Regulations for the organization and activities of the State Enterprise "Management and management of dams "** (Adopted by PMS No. 62 of 29.03.2019, amended by SG No. 53 of 8 July 2022 .
- **Organizational rules of the state agency for metrological and technical supervision** ( Adopted by PMS No. 47 of 24.02.2003, in force from 05.05.2006, amended SG No. 53 of 8 July 2022 )
- **Organizational Regulations for the activity, structure, organization of work and numerical composition of the basin councils, issued by the Minister of Environment and Water** ( Promulgated SG No. 25 of March 18 , 2003 , amended, No. 54 of June 16, 2020 .);
- **Disaster protection plans under Art. 9 of the Disaster Protection Act** (regional and municipal) ;
- **The flood risk management plans of the basin management areas, in accordance with the Water Act;**
- **Regional plans for the development of forest territories;**
- **Forestry plans and programs;**
- **Rules for the organization of the activity of the Ministry of Internal Affairs during crises, disasters and emergency situations, approved by order reg. No. 11977mp -**

4/15.11.2016;

- **Rules for actions of the head of operational actions in case of typical accidents;**
- **Instruction No. 8121h -915 of 1.12.2014 on the terms and conditions for implementation of operational flood protection;**
- **Instruction No. 8121h -955 of December 8, 2014 on the terms and conditions for carrying out search and rescue operations;**
- **Procedures for the reaction of the bodies of the Ministry of Internal Affairs, reg. No. 8121z -205/18.06.2014**

It can be seen that in the Republic of Bulgaria there are many legal acts that regulate the functions and responsibilities of the institutions in relation to flood risk management, but among them two key **legislative documents stand out - the Water Act** ( promulgated SG No. 67 of July 27 , 1999 , last amended SG No. 21 of March 13 , 2020 and **the Protection in the event of disasters Act** ( promulgated SG No. 102 of December 19, 2006 . , last \_ change and add. DV. No. 77 of September 18, 2018.), which provide the framework and regulate the protection from the harmful effects of water, specifically from floods, following the main European principles.

**The Water Act** provides a framework for assessing and managing flood risk and reducing the adverse effects on human health and life, the environment, cultural heritage and economic activity associated with flooding. The document has been harmonized with the European legislation, as for the purpose in 2010, the requirements of Directive 2007/60/EC **of 23 October 2007** on the assessment and management of flood risk, briefly referred to as the Floods Directive (FD), have been transposed into the provisions of Chapter Nine of the Water Act - "Protection against the harmful effects of the waters".

According to the Water Act, the principles and approach of long-term planning for flood risk reduction are provided in three main stages:

1. Preliminary flood risk assessment;
2. Preparation of flood hazard maps and flood risk maps
3. Preparation of flood risk management plans.

The preliminary flood risk assessment or assessment and decisions shall be reviewed and, if necessary, updated by 22 December 2018 and every six years thereafter.

Maps of flood hazard areas and maps of flood risk areas shall be reviewed and, if necessary,

updated by 22 December 2019 and every six years thereafter.

The flood risk assessment plans shall be reviewed and, if necessary, updated by 22 December 2021 and every six years thereafter. FRMP focuses on prevention, protection and preparedness.

**The Disaster Protection Act** provides the central legislative framework for RBM, including flood risk management in the Republic of Bulgaria. Adopted in 2006, and recently amended in 2017.

This act contains provisions for disaster risk assessment, preparedness, response and risk reduction, financial and technical assistance, while also clearly defining the roles and responsibilities of relevant authorities at national and regional levels. The act also provides for the development of a National Strategy and the relevant National Program for its implementation and outlines their general concept, regulations and conditions for adoption. The Disaster Protection Act also comments on the implementation of the annual plans through which the National Program is implemented, as well as their general scope and content. Other provisions of the Disaster Protection Act relate to the establishment, mapping and protection of critical EU infrastructure (see Annex 2), the establishment and operation of the Single Rescue System and voluntary formations. Particular attention is paid to training in RBM at all levels in the educational system and among the population.

**The Spatial Planning Act** relates to planning, investment design and construction, as well as the corresponding regulation of resilience to threats.

According to its provisions, constructions are designed, implemented and maintained in accordance with disaster risk reduction requirements, including and from floods. The act stipulates that all urban and development plans take disaster risks and climate risks into account. The act provides that the Directorate for National Construction Control shall assist the Minister of Regional Development and Public Works in the control of the implementation of the act. It is also stated that the bodies of the Ministry of Internal Affairs, as well as other state and municipal bodies, are obliged to aid the Directorate.

**Ministries of the Interior Act** concerns the activities of the Ministry of the Interior related to the protection of civil rights and freedoms, the protection of national security, protection from crime, fire safety and the protection of the population. It assigns specific activities to DG Fire Safety and Civil Protection.

**Forests Act** regulates public relations related to the protection, management and use of forest territories in the Republic of Bulgaria, with the aim of guaranteeing multifunctional and

sustainable management of forest ecosystems. Public ecosystem benefits of forest areas are flood protection; protection of natural and cultural heritage; protection of infrastructure objects and facilities; slowing down and regulating the impacts of climate change.

There are a number of specific documents incl. strategic documents at the national level, which also define competences and tasks for the responsible institutions in the field of protection from the harmful effects of water. Of particular interest among them are:

➤ **Ordinance on the conditions, procedures and bodies for analysis, assessment and mapping of disaster risks.**

It defines the conditions, order and government structures responsible for the analysis, assessment and mapping of disaster risks on the territory of the Republic of Bulgaria. The document identifies five potential disaster risks, one of which is flood risk. According to this regulation, analysis, assessment and mapping of disaster risks are carried out every 6 years by the relevant competent authorities. The Ministry of Environment and Water is the flood risk authority. The Ordinance provides that the methodologies are approved by the responsible ministers and revised when the consequences of disasters differ from those originally expected in terms of their severity and scope, based on the lessons learned from previous such events.

According to the Ordinance, risk analyzes should include at least:

- identification of hazards and determination of their characteristics;
- mapping of each hazard, which is a spatial designation of the territories exposed to the hazard;
- determining vulnerability, considering all factors influencing it, including the impact of climate change;
- disaster risk assessment for each hazard, including secondary effects; the assessment includes a description, probability and dimensions of the negative consequences for the life and health of the population, for the buildings, facilities and infrastructure, for the economic activity, for the environment and for the cultural heritage;
- mapping the risks of disasters, which is a spatial designation of the territories threatened by the respective risk, and applying the dimensions of the negative consequences.

The Ordinance provides for the creation of specialized databases, and their visualization is carried out in a Geographic Information System (GIS) environment. The document lays down a number of indicators, with the exception of those that are subject to protection as classified information, which should be put on the maps:

- approximate number of possibly affected residents (dead, injured and in danger to health);
- material losses;
- affected technical infrastructure;
- affected economic activity in the potentially affected area;
- affected installations according to Schedule No. 4 to the Environmental Protection Act, which may cause additional pollution due to an accident in the event of a disaster;
- water protection zones specified in art. 119 a, para. 1 of the Water Act;
- protected areas under Art. 6 of the Biological Diversity and Protected Areas Act, for which there is a possibility of being affected;
- level of disruption to the normal functioning of society;
- objects with the status of immovable cultural values;
- any other information that the relevant competent authorities consider useful.

The Ordinance determines the terms and conditions for the development, acceptance and control of risk assessments.

#### ➤ **National strategy for management and development of the water sector in the Republic of Bulgaria**

The strategy was developed by the MoEW in cooperation with all interested parties and was approved by the National Assembly in 2012.

The main strategic goal of the document is the sustainable use of water resources, providing optimally the current and future needs of the population and the economy of the country, as well as the water ecosystems. The strategy gives the direction for the reforms in the sector, the direction of the development of the legislation and the priorities for public financing.

The Strategy creates an institutional framework to ensure the transfer of responsibility for decision-making in relation to the development of the water sector at the national, regional and local level from business entities to public authorities – state and municipalities.

#### ➤ **National Strategy for Disaster Risk Reduction 2014-2020.**

The leading policy document on RBM/DRR is the National Strategy for Disaster Risk Reduction 2014-2020.

Hyogo Framework for Action, which calls for European policies and action-based solutions. The document aims to establish the strategic priorities and to support their implementation at the national, regional and municipal levels and on specific issues.

The strategy supports the identification and prioritization of specific areas for cross-border and trans-regional cooperation, as well as long-term coordination of disaster risk reduction. In accordance with the strategic objective laid down in it to "prevent and/or reduce the adverse consequences for human health, socioeconomic activity, the environment and cultural heritage in Bulgaria, as a result of natural and man-made disasters".

The strategy sets out the following four priorities:

- Developing a sustainable national policy and ensuring a stable legal and institutional framework;
- Identification, assessment and monitoring of disaster risks at the national, regional and local level; expanding and maintaining effective national disaster forecasting, monitoring, early warning and disclosure systems;
- Building a culture of disaster protection at all levels of government and in society by leveraging experience, training, research and innovation;
- Reducing significant risk factors and increasing preparedness for effective disaster response at all levels of government.

### **Update, as a result of the pilot testing done:**

#### **Water Act**

*(promulgated SG No. 67 of July 27, 1999 )*

*last \_ change DV. No. 102 of December 23, 2022 , add. DV. No. 66 of August 1, 2023*

The subject of floods is the subject of Chapter Nine, PROTECTION AGAINST THE HARMFUL EFFECTS OF WATER. Amendments:

**Art. 138c . (1)** (Supplement - SG No. 17 of 2021) If the owner of the dam and its facilities does not meet the requirements for a dam wall operator within the meaning of this act, he must assign the management, maintenance and implementation of the technical operation of the dam wall and its facilities by a person who meets these requirements. When the owner grants a concession for the dam, Art. 20, para. 5 .

**Art. 140.** (1) The systems under Art. 138, para. 4, item 2 are supported by the state.

(2) The control for the implementation of the activities under Art. 138, para. 4 is carried out by:

1. the chairman of the State Agency for Metrological and Technical Supervision or by officials authorized by him - for the activities under items 8 and 9;

Art. 140 (12) ( last amended - SG No. 102 of 2022, in force from 01.01.2023) River bed cleaning activities organized and carried out by the executor of the obligation to provide public protection services from the harmful effects of water, according to Art. 138, para. 5, are carried out in volume and territories, according to the duties assigned under this act and are controlled and coordinated by the Ministry of Agriculture

**Art. 141b .** (1) Dams are classified into three degrees of potential danger depending on the worst possible consequences of the release of the water stored in the dam due to destruction or improper operation of the dam:

1. first high degree of potential danger;
2. second significant degree of potential danger;
3. third low degree of potential danger.

**Art. 141b .** (1) Dams are classified into three degrees of potential danger depending on the worst possible consequences of the release of the water stored in the dam due to destruction or improper operation of the dam:

1. first high degree of potential danger;
2. second significant degree of potential danger;
3. third low degree of potential danger.

(2) (Amended - SG No. 102 of 2022, in force from 01.01.2023) **The criteria for classifying the degree of potential danger under para. 1 are defined in the regulation under Art. 141, para. 2 of the interdepartmental commission**, appointed by the Council of Ministers, which includes representatives of the Ministry of Environment and Water, the Ministry of Regional Development and Public Works, the Ministry of Agriculture, the Ministry of Energy, the Ministry of Economy, the Ministry of the Interior and scientific circles having direct relation to the dam walls and their facilities;

**Art. 146o .** (1) Flood risk management plans are reviewed and updated every 6 years.

(2) The plan update contains

1. changes or updates since the publication of the previous version of the flood risk management plan, including a summary of the revisions carried out in accordance with this section;
2. assessment of the progress in the implementation of the objectives according to Art. 146k , para. 2, item 1;
3. a description and explanation of any measures provided for in an earlier version of the flood risk management plan that were planned but not taken;
4. a description of any additional measures since the publication of the previous version of the flood risk management plan.

**( 3) (New - SG No. 20 of 2022, effective from 01.01.2022) Adopted flood risk management plans are applied until the adoption of updated plans under para. 1.**

**(4) (Previous paragraph 3 - SG No. 20 of 2022, effective from 01.01.2022) The first flood risk management plans are developed in accordance with the update of the river basin management plans under Art. 159** within the term under § 138, par. 2 of the transitional and final provisions of the Act on Amendments and Supplements to the Water Act ( promulgated , SG No. 65 of 2006; amended, No. 66 of 2006; amended, No. 22 of 2007 ., No. 95 of 2009) and are included in them.

**Art. 171.** (1) The Minister of Environment and Water organizes and directs water monitoring.

(2) (last amended - SG No. 20 of 2022) Measurements, observations, field and laboratory tests are carried out according to the monitoring programs approved by the Minister of Environment and Water by the Executive Agency for the Environment, Executive Agency "Research and maintenance of the Danube River", the National Institute of Meteorology and Hydrology under the Minister of Environment and Water and the Institute of Oceanology under the Bulgarian Academy of Sciences, as:

(6) (New - SG No. 61 of 2010, amended - SG No. 103 of 2018, in force from 01.01.2019, amended - SG No. 20 of 2022) **The National Institute of Meteorology and Hydrology under the Minister of Environment** and Water also carries out scientific and applied research, operational activities and technology development in the field of monitoring the amount of water and sediment runoff, including:

1. performs:

- a) observations of precipitation and the amount of water;
- b) the maintenance and development of monitoring networks;
- c) the processing and interpretation of data, including for floating sediments;
- d) the organization of databases;
- e) the forecasting of floods and droughts on the territory of the country;

2. processes and controls the information, calculates water quantities and solid runoff and develops operational hydrological forecasts;

3. prepares the annual operational assessment of surface and underground water resources;

4. ( last amended - SG No. 20 of 2022) **develops and maintains a system for uniform exchange of information at the basin and national level between the Ministry of the Environment and Water, the Executive Environmental Agency, the basin management directorates of Water and the National Institute of Meteorology and Hydrology under the Minister of Environment and Water;**



### **Disaster Protection Act**

*(promulgated SG No. 102 of December 19, 2006)*

*Last \_ change and add. DV. No. 60 of July 7, 2020*

**Art. 6.** (1) The preventive activity is carried out with the aim of reducing the risk of disasters and includes:

....

14. (new - SG No. 60 of 2020) collection, storage and sharing of data on damages and losses from disasters.

(2) (Amend. - SG No. 60 of 2020) The conditions, order and bodies for carrying out the activities under para. 1, items 1, 2 and 14 are determined by an ordinance of the Council of Ministers;

**Art. 89.** (1) (SG, No. 60 of 2020) When monitoring compliance with this law or the by-laws for its implementation, the Minister of Internal Affairs or officials authorized by him shall issue instructions.

(2) (New - SG No. 60 of 2020) The bodies of the executive power, legal entities and sole traders are obliged to fulfill the prescriptions under para. 1

### **Ministry of Internal Affairs Act**

*(promulgated SG No. 53 of June 27, 2014)*

*change and add. DV. No. 67 of August 4, 2023 .*

**Art. 17.** (1) The activity of ensuring fire safety and protection in the event of fires, disasters and emergency situations is carried out by the authorities for fire safety and protection of the population under the conditions and in accordance with the procedure of this act and the Protection Act in the event of disasters.

(2) The activity under para. 1 is implemented through:

10. (new - SG No. 60 of 2020) professional training of bodies for fire safety and protection of the population, rescuers and volunteers for the implementation of the activities under items 3 and 6.

(9) (New - SG No. 60 of 2020) The requirements for the specialized equipment, equipment and personal protective equipment used by the authorities for fire safety and protection of the population to carry out the activities under para. 2, items 3 and 6, are determined by an ordinance of the Minister of the Interior.

(10) (New - SG No. 60 of 2020) The specific requirements for the operation of specialized equipment and facilities under para. 9 are determined by an instruction of the Minister of the Interior.

(11) (New - SG No. 60 of 2020) The structure and activities of the Center for Professional Training at the National Fire and Rescue Service, which conducts professional training for fire safety and population protection authorities, rescuers and volunteers, are governed by regulations issued by the Minister of the Interior

### **Forest Act**

*(Promulgated SG No. 19 of March 8, 2011)*

*Last \_ change and add. DV. No. 67 of 4 August 2023*

Additional provisions

57. (new - SG No. 11 of 2023, in force from 02.02.2023) "Exceptional cases" are cases in which it is necessary to cut down unmarked trees in order to prevent or extinguish fires, in the event of natural disasters and accidents, as well as for the purpose of removing trees that pose a danger to the functioning of infrastructural objects or to prevent dangers threatening the life and health of people, the decision for which was taken by the competent state and municipal authorities, defined in the regulation under Art.101, para. 3

The strategy includes a brief analysis of disaster risks that affect all sectors, incl. and floods.

## **2. Main initiatives and documents at the international level aimed at reducing disasters, including the floods**

*UN International Strategy for Disaster Reduction (UN International Strategy for Disaster Reduction - UNISDR )*

The UN International Strategy for Disaster Reduction was adopted in December 1999 by the UN General Assembly. A secretariat and a UN office have been established to ensure the implementation of the strategy. The United Nations Office for Disaster Risk Reduction is also the focal point in the United Nations System for the Coordination of Disaster Risk Reduction and the implementation of the international plan for disaster risk reduction, the Hyogo Framework for Action 2005-2015: Building Resilience nations and communities to disasters". UNISDR carried out various campaigns, among them "Making Cities Resilient", which aims to engage all stakeholders (national governments, associations of local authorities, international, regional and civil society organizations, donors, the private sector, academia and professional associations, as well as every citizen) to reduce the risk of disasters such as floods.

*Hyogo Framework for Action 2005-2015: Building the Disaster Resilience of Nations and*

*Communities" ("Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities that Disasters ")*

Hyogo Framework for Action was adopted at the January 2005 World Conference on Disaster Risk Reduction. The report examines the main challenges posed by the occurrence of different types of natural disasters and analyzes the Yokohama Strategy for a Safer World in terms of identified good practices related to natural disaster risk management as well as identified gaps. On this basis, the priority goals and measures/actions related to increasing the disaster resilience capacity for the period 2005-2015 have been formulated.

*Sendai Framework Strategy for Disaster Risk Reduction 2015-2030" ("Sendai Framework for Disaster Risk Reduction 2015-2030")*

Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted at the Third United Nations World Conference in Sendai, Japan on 18 March 2015. It is the result of stakeholder consultations initiated in March 2012 and intergovernmental negotiations from July 2014 to March 2015, supported by the United Nations Office for Disaster Risk Reduction (UNISDR) at the request of the UN General Assembly. The developed instrument is the successor of the Hyogo Framework for Action 2005-2015. The guidance aims to build on what has been achieved so far, as well as to present a number of innovations, the need for which has been repeatedly emphasized within the negotiations and consultations held. Specifically, the Sendai Framework 2015-2030 states:

- the need for a better understanding of disaster risk in all its dimensions - characteristics of exposure, vulnerability and hazards;
- improving disaster risk management, including building national platforms;
- disaster risk management accountability;
- readiness for better recovery;
- recognition of stakeholders and their roles;
- mobilization of risk-sensitive investments to avoid the creation of new risk;
- sustainability of health infrastructure, cultural heritage and jobs;
- strengthening international cooperation and global partnership, donor-informed risk policies and programs, incl. and financial support and loans from international financial institutions.

Sendai Framework promotes mutual learning and exchange of good practices through voluntary and self-initiated peer reviews between interested countries. Such a peer review was initiated by Bulgaria in 2014 and was carried out in the period 2015-2016.

### 3. Basic acts of the European Union in the field of disaster risk reduction.

The main acts of the European Union in the field of disaster risk reduction are Decision No. 1313/2013/EU of the European Parliament and of the Council of December 17, 2013 regarding the Civil Protection Mechanism of the Union; Directive 2007/60/EC on flood risk assessment and management; Directive 96/82/EC on the control of major accident hazards involving dangerous substances; Directive 2008/114/EC concerning the identification and designation of European critical infrastructures and the assessment of the need to improve their protection; The Copernicus Emergency Management Service (4/12/2014), consisting of two components: a mapping component and an early warning component. In terms of strengthening chemical, biological, radiation and nuclear (CBRN) security in EU member states, the EU's CBRN action plan is of great importance.

Other important documents on the balanced approach of the EU and the principle of national responsibility of the member states on disaster prevention are the Council Conclusions on:

- "Community Framework for Disaster Prevention in the EU",
- "Towards strengthening the EU's disaster response: the role of civil protection and humanitarian aid",
- "Increasing public awareness in the field of civil protection" and
- "The development and introduction of early warning systems in the EU".

In terms of risk assessment, the Council Conclusions on the further development of risk assessment in EU disaster management and the Council Conclusions on integrated flood management within the EU, adopted in 2011, play an important role, as and the European Commission Working Paper "Guidelines for Risk Assessment and Mapping for Disaster Management". A significant international document for the South East Europe region is the Memorandum of Understanding on the Institutional Framework of the South East European Disaster Preparedness and Prevention Initiative (DPPI SEE), as well as the Strategy and Action Plan of the Initiative adopted every two years. These documents aim for an effective regional approach to disaster and emergency management by analyzing the current situation, available capabilities, challenges and opportunities to expand regional cooperation for preparedness and prevention.

In response to the serious floods in Central Europe and Southern France in 2002, the EU adopted Directive 2007/60/EC of the European Parliament and of the Council of 23.10.2007 on

the assessment and management of flood risk (referred to as the 2007 Directive for short /60/EC or the Floods Directive) to coordinate flood prevention, protection and preparedness within and between Member States at river basin level. Based on the analysis carried out and past experience, it has been determined that flooding can best be approached at basin level, with a range of measures to limit surface runoff, slow river flow, allow flooding to cover arable and agricultural lands, protecting vulnerable assets and not exacerbating upstream flooding. The Directive requires Member States to assess flood risk for all areas not normally covered by water, determine the extent of past and likely future flooding, map vulnerable economic assets and people and take mitigation measures of flood risk.

According to the Floods Directive, Member States should develop:

- 1) Preliminary flood risk assessments to be completed by December 2011, outlining severe flooding in the past and similar events that could occur in the future;
- 2) Flood Threat Area Maps and Flood Risk Area Maps to be completed by December 2013 and showing where a flood may have adverse effects;
- 3) Flood Risk Management Plans ( FRMPs ) to be completed by December 2015 and to be applicable for the period 2016-2021 (first cycle), which define measures for prevention, protection and preparation for floods. The next second cycle of the FRMP covers the period 2022-2027.

The Floods Directive rests on two guiding principles: subsidiarity and solidarity. Subsidiarity is expressed, for example, through the responsibility of Member States to define acceptable levels of risk; solidarity - by calling for cooperation between Member States, for example in the International Flood Risk Management Plan, and to avoid measures that would increase the risk of floods in other Member States in the same river basin.

Cross-border cooperation is a constant focus of the Floods Directive. As floods do not stop at borders, whether national, regional or institutional, transboundary flood risk management is an imperative in itself . In fact, flood risk management in transboundary watersheds is the rationale behind the FD and requires, among other things, joint monitoring, coordinated risk assessment and joint planning of measures. It is expected that in many Member States flood risk management strategies adopted at national level will be developed, incl. and because of the principle of solidarity, together with those of the other member states in the transboundary watershed.

The implementation of the Floods Directive should be coordinated with the Water Framework Directive, and in particular by coordinating the RBMP and FRMP, as well as by coordinating the public participation procedures in the preparation of these plans. The European Commission ensures this coordination primarily through a common implementation strategy in

support of the two directives and in particular through the creation of a working group on floods known as Working Group F. One of the main objectives of the group is to provide a platform for dialogue and support for implementation of the directive, in particular focusing on the formal requirements of the ND for the development of reporting formats and the related requirements of the FD ( including heavily modified water bodies, exemptions, reimbursement of water services, prevention of accidental contamination). Moreover, such cooperation is expected to promote more integrated river basin management and can be seen as a response to the multi-stakeholder and multi-level challenges that flood management poses. The other main purpose is the exchange of information.

Within the EC, a coordinating and supervisory role for the transposition and implementation of the Floods Directive is played by the Directorate General for the Environment. It also has the power to launch infringement proceedings in cases of non-compliance by member states. Other Directorates-General of the Commission are also involved in the implementation of flood-related actions - mainly the Directorates-General "Agriculture and Rural Development" and "Regional and Urban Policy" - through their responsibilities in the shared management of the European Structural and Investment Funds ( ESI Funds ).

The implementation of the Floods Directive has and will continue to have a major impact on flood risk management in Member States. For some of them, it is also the main driving force for change in flood policy.

Other EU documents and initiatives relevant to water and flood risk management include:

- Water Framework Directive 2000/60/EU
- Guides / guidance documents / manuals / guidelines for the Water Framework Directive 2000/60/EU
  - Commission Directive 2009/90/EC of 31 July 2009 laying down, pursuant to Directive 2000/60/EC of the European Parliament and of the Council, technical specifications for chemical analysis and monitoring of water status
    - Directive 2008/32/EC of the European Parliament and of the Council of 11 March 2008 amending Directive 2000/60/EC establishing a framework for Community action in the field of water policy as regards implementing powers conferred on the Commission
    - Directive 2006/44/EC of the European Parliament and of the Council on the quality of fresh waters requiring protection or improvement in order to be suitable for fish life
    - Directive 2006/11/EU on water pollution by hazardous substances and 7 daughter directives

- 7th EAP - Common European Union Environment Action Program 2014-2020: Living better within the limits of our planet. With this Environmental Action Program ( EAP ), the EU agrees to strengthen its efforts to protect the natural capital, incl. of Europe's water resources, driving resource-efficient low-carbon growth and innovation and protecting people's health and well-being while respecting the natural limits of our planet.

- EU Climate Change Adaptation Strategy of April 2013 The strategy has three main objectives: (1) encouraging Member States to act: encouraging all Member States to adopt comprehensive adaptation strategies and provide financing; in order to help them build capacity to adapt and take action. Supporting adaptation in cities by initiating a voluntary commitment based on the Pact of Mayors initiative (since 2015 merged with the Pact of Mayors on Climate and Energy initiative); (2) 'climate change adaptation' activities at EU level by further promoting adaptation in key vulnerable sectors such as agriculture, fisheries and cohesion policy, which ensure that Europe's infrastructure will be more resilient, and stimulate insurance against natural and man-made disasters; (3) better informed decision-making by taking action to address adaptation knowledge gaps and further develop the European Climate Adaptation Platform ( Climate-ADAPT ).

- Common Agricultural Policy (CAP) of the EU ( CAP ). Its main objectives are to ensure a fair standard of living for farmers and to ensure a stable and safe food supply at affordable prices for consumers. In 2000, the Rural Development Policy, also known as the "second pillar" of the CAP, was introduced. This policy addresses three main areas, one of which is improving the environment and the countryside by supporting land management as well as combating climate change. Such projects may, for example, concern planting trees to reduce the impact of floods or even to prevent them.

- Interregional cooperation program INTERREG Europe. The interregional cooperation program INTERREG Europe includes all EU member states as well as Norway and Switzerland under the European Territorial Cooperation objective, co-financed by the European Regional Development Fund (ERDF). It continues the INTERREG program IVC . For the period 2014-2020, its main objective is the improvement of regional development policies through the exchange of experience and good practices. Another of its goals is to benefit from the good practices and know-how of the regions already identified at the European level. As the Floods Directive requires the development of regional plans, INTERREG can play an important role in the process.

- Blueprint for Europe ( Blueprint for Water ). The Blueprint for the Protection of Water Resources in Europe was published in November 2012. It outlines actions that focus on better implementing existing water legislation, integrating water policy objectives into other

policies and filling gaps, -especially regarding water quantity and efficiency. The measures in the plan are aimed at increasing flood safety, drought prevention, as well as water quality and ecology. Therefore, they should be included both in the RBMP ( RWD) and in the FRMP (FD) and become a priority for financing under the CAP, Cohesion and Structural Funds.

#### **4. Assessment of the regulatory framework**

Based on the review of the available legal framework, the following conclusions can be drawn:

Responsibilities for flood risk management are shared between several actors. In the Republic of Bulgaria there is a large number of legal acts regulating the duties and competencies of flood risk management of numerous responsible institutions at the national, basin, regional and local levels. In addition to the Water Act and the Disaster Protection Act, there are also a number of specific by-laws and strategic documents at the national level, regulations, instructions, plans, etc. at the territorial level, regulating specific competences and obligations of the responsible institutions in the field of protection against the harmful effects of water. To a great extent, this makes it difficult for the institutions working at the territorial level (district and municipal), which are faced with the challenge of knowing and complying with the regulations on flood risk management. Considering the fact that these same institutions have imputed duties in a number of other areas, the mission seems difficult to achieve, often impossible.

The need to improve the coordination between the bodies involved in flood risk management has been established, for which coordination committees or interdepartmental working groups have been created, similarly in the Republic of Bulgaria there is a Water Coordination Council and a High-Water Advisory Council.

In some countries, the responsibility is given to the municipalities, which is not applicable to the Republic of Bulgaria for several reasons - firstly, the municipalities do not recognize their obligations, as they are not listed in their zoning regulations, and secondly, flood risk management should be considered at the river basin level, which includes a large number of municipalities, third, legislatively, many obligations are already regulated to other institutions.

For the Republic of Bulgaria, it can be noted that all five strategies (prevention, protection, mitigation, preparation and recovery) are applied to varying degrees, with the main emphasis being on prevention and protection.

A useful practice from the analyzed foreign experience that can be borrowed and introduced

in the Republic of Bulgaria is the connection between flood risk management and territorial planning, as well as experience in insurance.

## 5. Institutions with a role in flood risk management:

According to **the Water Act**, the protection from the harmful effects of water, incl. flood protection is operational and permanent.

**Operational** protection is expressed in carrying out the activities of:

- warning
- implementation of urgent measures to reduce the impact
- disclosure
- rescue operations
- providing medical assistance in emergency situations
- providing psychological first aid to victims and rescue teams
- control and liquidation of environmental incidents
- protection against explosives and ammunition
- search and rescue operations
- radiation, chemical and biological protection in incidents and accidents with dangerous substances and materials and against nuclear, chemical and biological weapons
- containment and extinguishing of fires;
- temporary removal, evacuation, concealment and provision of individual means of protection
- carrying out urgent emergency restoration works
- limiting the spread and eradication of outbreaks, epidemics and epizootics of infectious and parasitic diseases
- other security-related operations.

**Permanent** protection includes:

- construction and maintenance of dams, corrections of rivers and ravines and other hydrotechnical and protective facilities
- creation and maintenance of observation, forecasting and warning systems
- regulating the level of groundwater in the event of its dangerous rise or fall
- activities to protect catchment basins from water erosion

- maintaining the conductivity of river beds
- construction and maintenance of fortification and/or coastal protection facilities along the sea coast to protect against wave action
  - implementation of measures to prevent and limit damage caused by natural floods conducted in accordance with flood risk management plans
  - implementation of measures to maintain the dam walls and their facilities in good technical condition and ensure their safe operation
  - implementation of activities for the immediate decommissioning of dam walls and/or related facilities, which are in a pre-disaster state, until the restoration of their technological and structural security or the liquidation of such dam walls and/or facilities, if their restoration or reconstruction is inexpedient;
- maintaining the conditions for navigation on the Danube River.

According to **the Disaster Protection Act**, operational protection is expressed in carrying out the activities under Art. 19, para. 1 of the Disaster Protection Act and is implemented by the Unified Rescue System (USS), in accordance with the emergency plans under Art. 138a of the Water Act and with the disaster protection plans under Art. 9 of the Disaster Protection Act.

Entities with disaster protection functions include: ministries and departments, regional and municipal administrations, emergency medical aid centers, other medical and health facilities, legal entities and legal entities with limited liability, voluntary formations and the armed forces.

The activities for the protection of the population in the event of danger or the occurrence of a disaster according to Art. 19, para. 1 of DPA are implemented by the unified rescue system. The ESS includes structures of: ministries and departments, municipalities, commercial companies and sole traders, centers for emergency medical assistance, other medical and health facilities, legal entities with a non-profit purpose, including voluntary formations under Art. 41 of the Ministry of Defense and the Armed Forces.

The main components of the unified rescue system are the DG "Fire Safety and Civil Protection" - Ministry of the Interior, the regional directorates of the Ministry of the Interior, the Bulgarian Red Cross and the centers for emergency medical assistance. The coordination of the components of the unified rescue system is carried out through the operational centers DG FSCP **responsibilities** for providing operational and permanent protection are as follows:

**At the central level, the following are charged with functions:**

**Council of Ministers** – adopts the regulations defined in the WA and DPA; approves the Flood Risk Management Plans;

**MOEW** – implements state policy and develops regulations related to flood risk management; issues permits in the cases defined by law; coordinates the development and implementation of the FRMP; manages the financial resource from OPE for water; determines the regime schedules of the large dams, defined in the WA; participates in the working groups of the EC and international conventions on issues related to flood risk management and carries out the reporting to the EC and the bodies of the conventions;

**MRDPW** - implements the state policy regarding water supply and sewage systems and facilities in populated areas and to protect against the harmful effects of water within the borders of populated areas; performs the functions of the principal of water and sanitation companies with state participation;

**ME** - implements the state policy regarding hydropower systems and sites and to protect against the harmful effects of water from these sites;

**Ministry of Health** - implements the state policy regarding hydromelioration systems and facilities and to protect against the harmful effects of these objects;

**MAFF** - implements the state policy regarding the quality of drinking and bathing waters and the balneological assessments of mineral waters;

**SAMTS** supervises the dam walls and their facilities - with the changes to the 2016 Act.

**SEMD** carries out complex management of dams - public and private state property;

**EEA** – monitors the qualitative state of surface and underground natural waters;

**NIMH** - monitors the amount of precipitation, underground and surface water, including alluvial runoff; predicts floods and droughts on the territory of the country, provides meteorological forecasts, forecasts of precipitation, snowmelt and floods in connection with water management and protection from their harmful effects; conducts assessments of trends and creates scenarios for climate change and its impact on surface and underground water resources at the national level, estimates of the amount of water in surface and underground water bodies; managing and maintaining the points and stations for monitoring the amount of water, including those included in the early warning systems, designed for monitoring and forecasting the risk

factors that can cause flooding.

Coordination and interaction at the central level is provided by:

**Water Coordination Council**, including nine ministers and a representative of the National Association of Municipalities. The Council ensures the coordination of activities on: the development and implementation of river basin management plans and flood risk management plans and the financing and implementation of programs of measures in these plans; annually discusses the implementation of the national programs for the plans; examines reports from regional governors on the state of the water infrastructure and the results of control activities; - the activities to maintain the conductivity of the river beds within the boundaries of the urbanized territories (including removal of the trees, logs, bushes that have grown in the water course and all trees that have fallen or are in danger of falling; protection of the river banks from erosion, strengthening of the banks and protection of coastal vegetation; cleaning riverbeds of alluvial deposits to ensure their normal conductivity), are carried out by the mayors and are also financed by the Interdepartmental Commission for Restoration and Assistance to the Council of Ministers, provided they are included in the Annual Plan for the Implementation of the National Program for disaster risk reduction.

**Higher Advisory Council on Water**, including the Minister of Environment and Water, who chairs it, representatives of ministries, municipalities, the scientific community, the non-governmental sector. The Council has consultative functions on matters of prevention of the harmful effects of water. The organization and activities of the council are determined by the Regulations for the structure and activities of the High Advisory Council on Water;

**Council for Disaster Risk Reduction**, which body assists the Council of Ministers in the formation and implementation of sectoral policies related to disaster risk reduction, including the adoption of a National Disaster Risk Reduction Strategy, a National Disaster Risk Reduction Program and a National Disaster Risk Reduction Plan disasters.

### **At basin level**

The Water Act regulates the competences of the Basin Directorates, which carry out water management at the basin level; issue permits and carry out control activities; functions on the development of FRMP and RBMP. The BDs manage the activities of the Basin Councils.

Established in 2003 and currently functioning, the Basin Councils of the four basin directorates have no addressed functions in terms of flood risk management. The activities of the basin councils are carried out in accordance with the Rules of Procedure for the activity, structure, organization of work and numerical composition of the basin councils (Official Gazette No. 25 of March 18, 2003), which has not been updated since 2010. to meet the requirements of the Floods Directive. According to the rules, the basin councils perform their public-consultative functions: give opinions, make recommendations, prepare proposals related to: preparation of the assignment and development of the RBMP; implementation of the measures of the FRMP; other plans that may affect the waters; activities under the Civil Code and its by-laws. The composition of the basin council includes representatives of: the state administration - up to 20%; the territorial administration - up to 30%; water users, users of water bodies and owners of water management systems and facilities - up to 30%; non-profit organizations and scientific institutes - up to 20%. with WA.

At the regional level, there are several institutions with responsibilities in the area under consideration:

**District Governors** - according to the PPE, organizes and directs disaster protection in the district, organizes and controls the implementation of preventive measures to prevent or reduce the consequences of disasters, supported by a district council for disaster risk reduction. According to the law on local self-government and local administration, rules, regulations, instructions, decisions, declarations and decisions are adopted by the municipal council.

They coordinate flood prevention policy through special committees and coordination of disaster and emergency activities; Adopt the municipal Ordinances and regulations related to the organization of the territory and for the protection of the population in the event of disasters; They accept the municipal budget, in which the financial means for disaster protection are planned.

**At the local level**, the municipalities, through the municipal councils and the mayors of the municipalities, carry out activities for the maintenance and cleaning of the riverbeds in the urbanized territories, and the issue of maintaining the dams in the country, the vast majority of which are municipal property, has become of particular importance in recent years. and responsibility.

The mayor of the municipality organizes and directs disaster protection on the territory of the municipality; organizes, coordinates and carries out preventive measures to prevent or reduce

the consequences of disasters; establishes an early warning organization for disasters; plans financial means for disaster protection in the draft municipal budget; creates by order a municipal headquarters for the implementation of the municipal disaster protection plan and for interaction with the district headquarters; appoints a head of operations by order; coordinates and supervises the development and implementation of the municipal disaster risk reduction program; coordinates and supervises the development and implementation of the municipal disaster protection plan; ensures the response capabilities of the municipality; organizes and is responsible for the training of the municipal administration and the population of the respective municipality, for the ways of behavior and action in the event of disasters and the implementation of the necessary protective measures; provides data for the preparation of the district disaster risk reduction program and the district disaster protection plan; provides caravans to live in, prefabricated houses or tents if it does not have spare council-owned housing.

The municipal headquarters performs the following main activities: analysis and assessment of the disaster situation; proposes to the mayor of the municipality for approval decisions regarding the necessary volume and resource provision of rescue and urgent emergency restoration works to prevent, limit and liquidate the consequences of the disaster and to assist the affected population; carries out control over the implementation of the tasks and measures to control the disaster; informs the population through the media about the development of the disaster, about the actions taken to limit and control it and about the necessary precautions and actions; report to the mayor of the municipality on the progress of the protective measures being carried out.

**The Municipal Council for Disaster Risk Reduction** – to support the activities of the mayor of the municipality in fulfilling his responsibilities in the protection from disasters on the territory of the municipality and in implementing measures to prevent or reduce the consequences of disasters. The council is chaired by the mayor of the municipality and is represented by him. The Council defines and adopts rules for its work, and its powers are only on the territory of the relevant municipality; fulfills the instructions and guidelines of the disaster risk reduction council of the Council of Ministers of the Republic of Bulgaria and of the regional disaster risk reduction council; develops and coordinates activities for the implementation of the municipal disaster risk reduction program; develops, revises and updates the municipal disaster protection plan; reviews and prepares an annual report to the regional disaster risk reduction council on the state of disaster protection on the territory of the municipality.

## Good practices in European countries

Actions to manage flood risk, implement prevention and overcome the consequences of floods are determined by the strategic guidelines and actions defined by a number of UN and EU documents.

*Major initiatives* and *documents* at the international level aimed at disaster reduction, incl. the floods.

In the period 2005 – 2015, the main strategic document at the international level that relates to disaster risk reduction policy is the **Hyogo Framework for Action**. The Framework for Action was adopted at the January 2005 World Conference on Disaster Risk Reduction.

The report examines the main challenges posed by the occurrence of different types of natural disasters and analyzes the Yokohama Strategy for a Safer World in terms of identified good practices related to natural disaster risk management as well as identified gaps. The priority measures/actions related to increasing the disaster resilience capacity for the period 2005-2015 are formulated on the basis of the Yokohama strategy.

Specifically, based on the analysis of the Yokohama Strategy, specific gaps/challenges have been identified in the following 5 aspects:

- development of organizational, legal and political frameworks for management;
- risk identification, assessment, monitoring and early warning;
- data management and training;
- limitation of the main risk factors;
- readiness for effective response and recovery.

The formulated 5 priority goals address precisely these aspects and are formulated as follows:

- 1) identifying the reduction of the risk of natural disasters as a priority with a stable institutional basis for implementation at the national level;
- 2) identification, assessment and monitoring of disaster risks and capacity building for early warning;
- 3) defining a comprehensive culture of safety and sustainability at all levels through the dissemination of knowledge, innovation and training;

- 4) limiting the main risk factors;
- 5) increasing preparedness for an effective response to disasters.

Specific implementation measures have been identified for each of the formulated main priority goals.

**Hyogo Framework for Action** was replaced in March 2015 by **The memory Sendai** to reduce the risk from disasters in the period 2015-2030, which is the fifth on The third world conference on OOH to limit the risk from the disasters in Sendai , Japan.

The replacement of one with the other strategic document became necessary due to an identified need for policy change at the international level, which would lead to corresponding changes at the regional and local level. Some of the new policy developments embodied in the Sendai Framework are an **emphasis on the prevention of new risks** in the development process, a shift from disaster management to **disaster risk management**, and a **focus on the recovery phase. , rehabilitation and reconstruction, which need to be prepared before the disaster (" to build a new, better ")**. The aim is to prevent new and reduce existing disaster risks. Compared to the Hyogo Framework for Action, the Sendai Framework is innovative – it encourages engagement at all levels of society – national, regional and local.

The memory Sendai outlines a broad, people-centered approach to reducing the risk from disasters of small or large scale, caused by natural factors or provoked by humans, the thing and the things connected with it ecological, technological and biological hazards and risks, introduces new areas of focus such as ecosystem protection and restoration, education and cultural heritage. It also envisages a strong role for regional organizations in supporting countries' disaster risk reduction efforts.

The European Union played a leading role in negotiating the new framework, and many of the Sendai recommendations build on existing EU disaster risk management policies. There are also links with other EU policies, including climate change, critical infrastructure protection, research and innovation, global health security.

The aim of the Sendai Framework is to improve and promote disaster risk management and its integration into EU policies, highlighting the experience of the European Commission to date and the framework priorities in existing EU policies.

Bulgaria is a member of **the Civil Protection Mechanism of the Union**, which facilitates cooperation between European countries in the field of population protection.

The EU mechanism aims to improve *prevention, preparedness* and *response* and provides an opportunity for active international cooperation in the field of population protection. It also includes a number of bilateral agreements with neighboring countries.

*Sendai Framework* 2015-2030 states:

- the need for a better understanding of disaster risk in all its dimensions - characteristics of exposure, vulnerability and hazards;
- improving disaster risk management, including building national platforms;
- disaster risk management accountability;
- readiness for better recovery;
- recognition of stakeholders and their roles;
- mobilization of risk-sensitive investments to avoid the creation of new risk;
- sustainability of health infrastructure, cultural heritage and jobs;
- strengthening international cooperation and global partnership, donor-informed risk policies and programs, incl. and financial support and loans from international financial institutions.

*Sendai - The Guidelines for Disaster Risk Reduction* 2015-2030 were adopted at the Third United Nations World Conference held in Sendai, Japan on 18 March 2015. Its adoption was the result of a series of stakeholder consultations initiated by March 2012 and intergovernmental negotiations in the period from July 2014 to March 2015. Its purpose is to give an overview of the overall process of developing strategies for effective disaster risk management, incl. floods and formulate potentially country-applicable guidelines/recommendations.

Management aims to build on what has been achieved so far, the moment, as well as to present a number of innovations, the need for which was repeatedly emphasized in within the framework of the negotiations and consultations.

Specifically, the guide provides the following Stakeholder Opportunities:

- 1) Develop a clear, focused, forward-looking and action-oriented disaster risk management strategy;

Hyogo Framework for Action;

- 3) To familiarize and benefit from the experience accumulated through the developed regional and national disaster risk management strategies and plans, from the recommendations formulated by them, as well as from the applicable regional agreements concluded for the purposes of the implementation of the Hyogo Framework for Action;

4) To identify opportunities and conditions for cooperation for the purposes of implementing the framework strategy for disaster risk management. To identify the opportunities and conditions for periodic review and evaluation of the implementation of the framework strategy for disaster risk management in the period after 2015.

The guidance formulates 7 key global goals, supporting the subsequent assessment of international progress achieved, as follows:

- 1) Significantly reduce, internationally, mortality from disasters by 2030;
- 2) Significant reduction, internationally, of the number of persons affected by disasters by 2030;
- 3) Limiting direct economic losses caused by disasters (calculated on a GDP basis) by 2030;
- 4) Significantly reduce disaster damage to key elements of built infrastructure and services provided, including through improving resilience, by 2030;
- 5) A significant increase in the number of countries with developed and adopted national or regional disaster risk reduction strategies by 2020;
- 6) Significantly improving the opportunities of developing countries to benefit from international cooperation in the implementation of the considered framework for disaster risk reduction;
- 7) Significantly improve access to early warning systems as well as information on disaster risk.

Good European practices in the field of strategic flood risk management are summarized in the STAR-FLOOD project - "Flood Risk Management Strategies".

Flood risk management in European Member States has traditionally focused on structural flood protection solutions and this method can be described as '*keeping water away from people*'.

Recently, however, it is increasingly recognized that flood risk management requires *a combination of options* aimed at minimizing both *the likelihood* and *consequences* of flooding. So diversified approach is recommended in all international and European regulatory documents of recent years (the European Flood Directive (2007/60/EC), the Hyogo Action Framework and the subsequent Sendai Framework , etc.).

In the STAR-FLOOD project , a distinction is made between *five* flood risk management strategies ( *prevention* , *protection* , *mitigation* , *preparation* and *recovery* ), which can be combined - the so-called *a diversified approach* to choosing and implementing strategies.

STAR-FLOOD project participants have grouped the five strategies in terms of three main cases: *pre* -flood, *during* -flood and *post* -flood.

The division of ' *before* ', ' *during* ' and ' *after* ' a flood is based on the *risk management cycle* that underpins the FD, the Hyogo Framework for Action and its successor the Sendai Framework , providing the main guidance on the process of developing strategies for effective disaster/flood risk management.

### 1 . Before flood:

- Flood risk prevention aims to reduce the consequences of flooding by reducing the exposure of people and property through measures that prohibit or discourage development in areas at risk of flooding (e.g. spatial planning, redistribution policy, expropriation policy ). The main goal of this strategy is to " *keep people out of the water* " by building only outside areas that are prone to flooding.

- Flood protection measures aim to reduce the likelihood of flooding. This is done through the use of flood protection infrastructural facilities such as dykes and dams; by increasing the capacity of existing channels; by increasing the space for water and by creating space for water retention upstream. In other words, " *to keep water away from people* ".

- Flood risk mitigation focuses on reducing the magnitude (extent) or consequences of floods through measures in vulnerable areas. The extent of flooding can be reduced by impounding or storing water in or below flood-prone areas (e.g. stormwater retention). The consequences can be reduced by flood zoning or (regulations for) construction of flood resistant buildings.

### 2. During a flood:

- Flood preparedness and response measures include developing flood warning systems, preparing disaster management and evacuation plans, and managing floods when they occur.

### 3. After a flood:

- Flood recovery includes reconstruction and recovery plans, as well as compensation with public (budgetary) funds or private *insurance* systems.

In countries with a predominant focus on flood protection (Belgium, France, Poland and the Netherlands), the presence of effective flood protection infrastructure is an absolute necessity ("must *have*"), and other strategies are seen as complementary to reduce residual risks (" *good to have* ").

A country like England, which has a more balanced approach to strategies, experiences more floods, but at the same time does better in terms of response and recovery.

An important takeaway from the STAR-FLOOD project is that having multiple strategies in a given location can *lead to fragmentation*. Therefore, essential for achieving good results are - coordinated actions between actors, policies, laws and other tools that link and harmonize strategies.

Based on the framework described above, the following *recommendations can be made* to the Bulgarian institutions regarding the approach in the process of developing the draft strategy for the interrelationships between *prevention* and *response* for flood protection:

- 1) As there is no single solution - " *one size fits all* " - in general it is necessary to apply *a diversified approach*, following the process of the *risk management cycle* - *before* the flood, *during* the flood and *after* the flood;
- 2) To apply the classic methodology for strategic planning: - Analysis of the current situation; - Determination of goals and priorities in the context of the identified problems; - Development of alternatives (sequence of actions and measures) to achieve the stated goals; - Choice of alternative; - Development of a mechanism to monitor and control implementation to avoid fragmentation.

Based on the review/analysis of foreign experience, the following main conclusions and recommendations can be formulated regarding the applicable practices/approaches related to the development of a flood risk management strategy applicable to **Bulgaria**:

1. The review of international experience testifies to the possibility of formulating different strategic goals at different levels - municipal level, regional level and national level;
2. It is recommended that based on the identified specific gaps/challenges, as a result of the analysis proposed in the Guide - Sendai, in the strategy to be developed, it is necessary to seek improvement in relation to the following aspects:

- development of organizational, legal and political frameworks for management;
- risk identification, assessment, monitoring and early warning;
- data management and training;
- limitation of the main risk factors;
- readiness for effective response and recovery.

3. The integration of non-structural initiatives into the goals related to human health, the environment, cultural heritage and economic activity is outlined as a relevant and applicable practice;

4. For Bulgaria, it can be noted that all five strategies (prevention, protection, mitigation, preparation and recovery) are applied to varying degrees, with the main emphasis being on **prevention** and **protection**. A useful practice from the analyzed foreign experience that can be borrowed and introduced in Bulgaria is the connection between flood risk management and **territorial planning**, as well as experience in **insurance** ;

5. In some of the examined countries, the responsibility is given to the municipalities, which is not applicable to Bulgaria for several reasons - firstly, the municipalities do not recognize their obligations, as they are not listed in their zoning regulations and, secondly, flood risk management it should be considered at the river basin level (which requirement is set in the DN), which includes a large number of municipalities and, thirdly, legislatively, many obligations are already regulated to other institutions, which also reflects on the distribution of budgets.

6. A significant international document for the South East Europe region is the Memorandum of Understanding on the Institutional Framework of the South East European Disaster Preparedness and Prevention Initiative (DPPI SEE), as well as the Strategy and Action Plan of the Initiative adopted every two years. These documents aim for an effective regional approach to disaster and emergency management by analyzing the current situation, available capabilities, challenges and opportunities to expand regional cooperation for preparedness and prevention.

7. Floods are best approached at **the basin level**, with a range of measures to limit surface runoff, slow rivers, allow floods to cover uncultivated and agricultural land, protect vulnerable assets and not aggravate the floods in the upstream direction. The Floods Directive rests on two guiding principles: subsidiarity and solidarity. Subsidiarity is expressed, for example, through the responsibility of Member States to define acceptable levels of risk; solidarity - by

calling for cooperation between Member States, for example in the International Flood Risk Management Plan, and to avoid measures that would increase the risk of floods in other Member States in the same river basin.

***Regarding the answers to the questions:***

> *Are the duties and responsibilities of the individual institutions working in the field of flood risk management clearly delineated and are there functions that are not addressed to any institution?*

From the analysis of the foreign experience, it is clear that the obligations of the institutions are clearly regulated. This should be set as the main priority, in relation to the above-mentioned for the zoning regulations of the municipalities.

> *are there similar regulatory problems with other countries?*

From the analysis of foreign experience, the need to improve the coordination between the bodies involved in flood risk management in each of the considered countries has been established, for which coordination committees or inter-ministerial working groups have been established. Similarly, in Bulgaria there is a Coordination Council on Water and a High Advisory Council on Water.

In some countries, the responsibility is given to the municipalities, which is not applicable to Bulgaria, and in addition to the reasons mentioned above (in item 5), there are also some specific features:

- difference in the development of organizational, legal and political management frameworks;
- differences in risk identification, assessment, monitoring and early warning;
- differences in data management and training;

Sendai Framework, the approach to solving the identified problems both in Europe and in Bulgaria is the same, namely through:

- development of the organizational, legal and political frameworks for management, with the inclusion of the public in decision-making;

- introduction of early warning systems for the purpose of timely risk identification, assessment and monitoring;
- limitation of the main risk factors;
- conducting trainings and exercises for all participants involved in flood risk prevention and response;
- readiness for effective response and recovery.

Strategic goals are derived precisely through the identified problems and the approach to their formulation should be overcome by:

- 1) identifying the reduction of the risk of natural disasters as a national one a priority with a stable institutional basis for implementation;
- 2) identifying, assessing and monitoring disaster risks and increasing early warning capacity;
- 3) defining a comprehensive culture of safety and sustainability at all levels through the dissemination of knowledge, innovation and training;
- 4) limiting the main risk factors;
- 5) increasing preparedness for an effective response to disasters.

On the basis of the analyzes carried out and past experience (at the European level), it has been established that flood risk management is best approached at the **basin level**, with a set of measures to limit surface runoff, slow down the flow of rivers, allowing floods to cover uncultivated and agricultural land, protecting vulnerable assets and not exacerbating upstream flooding.

The Floods Directive rests on two guiding principles: subsidiarity and solidarity. **Subsidiarity** is expressed, for example, through the responsibility of Member States to define acceptable levels of risk; **solidarity** - by calling for cooperation between Member States, for example in the International Flood Risk Management Plan, and to avoid measures that would increase the risk of floods in other Member States in the same river basin.

From the review of foreign experience, it is clear that in most countries the responsibility is given to the municipalities (decentralization), which is inapplicable to Bulgaria for several reasons - firstly, the municipalities do not recognize their obligations, as they are not listed in their regulations, and secondly, flood risk management should be considered at least at the *river basin level* (which requirement is set in the National Law), which includes a large number of municipalities, and thirdly, many obligations have already been regulated by legislation to other institutions, which also reflects on the allocation of budgets.

The review of international experience testifies to the possibility of formulating different strategic goals at different levels - municipal level, national level, cross-border level. The integration of non-structural initiatives into the goals related to human health, the environment, cultural heritage and economic activity is outlined as a relevant and applicable practice.

### ***Practice from foreign experience*** in flood risk management and ***spatial planning***

Spatial planning contains various tools that are relevant to flood risk management, which can be broadly divided into two categories: (1) Prohibition of development and construction in flood-prone areas; and (2) Develop planning conditions that minimize potential flood damage by constructing flood-resistant buildings.

**France** has a very strong spatial planning policy, with the country's zoning in place prohibiting development and construction in areas with the highest risk of flooding.

In **Belgium**, **England** and **Sweden**, spatial planning policies aim to direct construction away from the highest risk areas, with exceptions possible in certain circumstances (eg lack of available lower risk land). Spatial planning in Belgium and the Netherlands involves representatives of the water authorities who check the impact of new construction on water and flood management and give advice and recommendations.

Insurance mechanisms can also be used to discourage development and construction in flood-prone areas, for example by charging higher premiums for properties in such areas.

Spatial planning regulations to prevent or mitigate flood risk have been introduced in many countries. However, a common problem is their insufficient application or neglect. This necessitates the need for constant checks and balancing of interests.

*Good practices* demonstrating the link between flood risk management and spatial planning are water assessment and signal areas in Flanders (Belgium), construction and building permits in Sweden, and the link between spatial planning and flood risk in Nice (France). In particular, the experience of Nice is indicative of the progress in the process of decentralization of flood risk management that is taking place in France. It illustrates the 15-year process of evolution in the relations between the state and local authorities, and at the end of this process, the role of the state changes from a regulator and controller of the implementation of legal provisions to a participant who, together with the municipality, tries to coordinate the development of construction and flood prevention. The dialogue between the two authorities - state and local - allows to identify which events are possible in the flood-prone area without increasing the degree of risk. Locally, this means relaxing strict flood control legislation and increasing the viability of the area in terms of building projects.

#### *Practice from foreign* experience in flood risk *insurance*

CAT-NAT natural disaster compensation scheme in *France* embodies the principle of solidarity and can be considered one of the main features of French flood policy. The CAT-NAT regime was introduced by law in 1982 and is a hybrid insurance system based on the participation of both the state and insurance companies.

In terms of participants, CAT-NAT is a collaboration between the insurance market and the state, through which private insurance companies are conductors of the public national policy of solidarity and public interest. Insurers and policyholders are bound by a private contract that includes excesses payable by policyholders. Insurers must first cover the risk of natural disasters with a rate determined by the state, and each insurance contract then adds a risk premium (ie an additional contribution calculated at a uniform rate determined by ministerial decree - 12% from 2009), which funds CAT-NAT. This legal requirement applies to all French home insurance contracts. Since the penetration rate of this insurance is very high (98%), almost everyone is protected. The CAT-NAT regime is well balanced, at least with respect to normal years (in which no exceptional events occur), and is extremely stable. Floods account for between 60% and 80% of losses. Average costs are estimated at €800 million in annual compensation paid by insurance companies (total costs, including those for uninsured property, are typically estimated at twice that amount), while annual direct income from CAT-NAT premiums has grown to 1.3 billion euros.

According to some analysts, the CAT-NAT scheme embodies a centralized approach and remains far from local government both in concept and governance. The combination of centralized and public-private governance regimes can lead to opacity and uncertainty. When the state intervenes heavily, the system looks more like a tax regime than insurance. Conversely, private insurers have valuable information about risks not necessarily available to the public sector. This public-private combination can lead to confusion between the public and private spheres.

In *England*, flood insurance is provided as part of general household insurance (buildings and property) and therefore falls within a wider area of household insurance and reinsurance policy. Flood insurance is strongly linked to the recovery strategy and is the main mechanism by which individuals and businesses can secure financial assistance after a flood. Although primarily associated with recovery, having a well-functioning insurance system with high levels of penetration underpins many other flood risk management systems. The insurance policy obliges/incentivizes the owners of the insured properties to take additional measures to protect and/or reduce the risk of floods. Insurance in England has always been provided by private insurance companies, which for many years operated on a purely market basis: i.e., insurance companies were free to decide whom to insure and at what premium. Buildings insurance is mandatory for those with mortgages, thus creating a situation of high insurance penetration. Since 2016, a not-for-profit reinsurance fund, has been introduced in England Flood Re. And although a large proportion of households are not affected, this approach allows for formal cross-subsidization of those properties at higher risk of flooding and introduces a premium cap, thus limiting the cost of insurance for those households.

***Assessment of the possibility*** of applying *foreign* experience in the Bulgarian context

For Bulgaria, it can be noted that all five strategies (prevention, protection, mitigation, preparation and recovery) are applied to varying degrees, with the main emphasis being on *prevention* and *protection*. A useful practice from the analyzed foreign experience that can be borrowed and introduced in Bulgaria is the connection between flood risk management and territorial planning, as well as experience in insurance;

In Bulgaria's disaster risk management, the *World Bank Group*'s RBM *operational framework* is applied, both in terms of structuring the various RBM components, and for easier

comparison of progress and gaps against countries with similar risks and levels of development.

This framework defines five pillars of RBM:

- 1) *Risk assessment* , which covers hazard and risk assessments and their communication;
- 2) *Risk reduction* , which includes structural and non-structural measures;
- 3) *Preparedness and early warning*;
- 4) *Financial protection* , which aims to assess and limit contingent liabilities, instruments for pre- and post-financing and insurance aspects; and
- 5) *Policies for response, sustainable recovery and reconstruction*.

Each pillar is underpinned by a working institutional, political, regulatory and financial context. These elements correspond to the priorities for action under the Sendai Framework for Disaster Risk Reduction.

Overall, given the legislation, organizational frameworks and discussions with responsible agencies, there is an understanding and real action being taken to move towards a comprehensive ERM framework that addresses all elements of RBM. Regarding the promotion of immovable property *insurance* , *spatial planning* in flood risk management, progress is uneven, as some municipalities with larger and better capacity are able to take on the responsibilities more easily, while for others it remains a significant challenge.

The further development of flood risk maps and management plans are MoEW priorities for the period 2021–2027. It is planned that the existing maps and analyzes of the four basin areas will be updated in the same period to reflect the effects of the change of climate and consider the new data, and flood risk maps will be produced for the whole country. In addition, the potential for flash floods and flooding in urbanized areas (as a result of rainfall) will be clearly reflected, covering a wider range of *sectoral risks*. Certain key datasets are central to the creation of most risk maps, including: land use and vegetation, soils and geology, topography, river networks, transport, public buildings, critical infrastructure, residential building typologies, demographic information, GDP produced, replacement costs, etc. Without these data - albeit fragmented and statistically established - it is difficult to predict the social, material and financial costs of disasters and to make a meaningful cost-benefit analysis. The datasets should be collected once and made available to all national and regional institutions responsible for disaster risk management, climate change and urban development planning.

In addition to the need to create new analyzes and maps of natural hazards and disasters and climate risks, it is imperative that this information is available to stakeholders who use it in decision-making. For example, citizens may consider flood risks when purchasing properties and businesses, as this may impact their ability to insure the property in the long term.

All buildings in areas with a medium and high risk of flooding should take into account the safety of citizens who have access to them and provide for the positioning of expensive fixtures (for example, valuable *equipment* ) on higher floors and/or the possibility of their relocation in case of threat from floods.

The greatest damage and recovery costs after a disaster are usually *in the residential sector* . Without a well-developed and functioning insurance market, these costs usually fall on the government as a " *hidden* " liability. A good example from foreign experience is that in flood-prone areas, governments can reduce the risk by buying the property of those living in high-risk conditions or citizens whose homes have been damaged, providing them with land to redevelop in a lower-risk area /probability of flooding. According to Bulgaria's Spatial Planning Act, municipal authorities can also restrict new construction projects in flood-prone areas.

Governments could also introduce mandatory home insurance that covers all potential threats, and if such a program were clearly tied to home vulnerability (risk-based insurance pricing), homeowners would have an additional incentive to make their homes more resilient.

Although all of the above are possible options for the government, there is currently no targeted policy for reducing risk in the housing sector, and the contribution of insurance activity to reducing risk in Bulgaria remains weak. According to the World Bank, the main reasons are: - insufficient information about potential customers; - low level of insurance coverage; - the general underestimation of the risks and the lack of related financial capacity. Furthermore, insurance policies generally do not cover specific risks related to natural disasters, and while some household insurance includes flood protection, only about 10% of total households are insured. However, with greater public awareness, the potential for insurance policies to play a more substantial role in improving disaster risk preparedness could increase significantly.

With regard to *agricultural land use* , no relationship with flood risk assessment and management was established. Insuring crops against climate impacts is largely avoided by insurance companies, and few growers take out such policies. An updated risk assessment and mapping is needed, followed by an assessment of the necessary measures, investments and long-term planning.

RBM baseline at the national level, including identifying gaps in historical data and the environmental costs of previous disasters. The use of regional climate models or disaster risk modeling is extremely important in creating a national risk profile.

The development and implementation of an intensive public awareness campaign will engage the public sector with the private sector and force the government to improve the existing regulatory system for flood risk reduction and management.

Advance financial planning is critical to coping with the financial shock caused by disasters. It should consider factors such as the frequency and intensity of potential disaster events, the temporal aspects and flexibility of funds required for the different stages of response, recovery and reconstruction, the balance between risk retention and transfer, legislative frameworks, the availability and use of insurance and scalable social security approaches. This information can be used to develop a comprehensive financial and insurance strategy regarding disaster risk.

The assessment needs to focus on the following areas:

- 1) state mechanisms for financing disaster response, recovery and reconstruction;
- 2) insurance of state or municipal assets; and
- 3) home property insurance.

#### ***Insurance of state or municipal assets***

According to state and municipal property laws, all state and municipal assets must be insured. This aims to reduce the government's financial liabilities in the event of a disaster. However, the legal provisions do not specify the insurance coverage, which allows institutions and municipalities to choose cheaper policies with minimum coverage.

The 2017 floods revealed that many government assets were not insured against floods. ***The State Property Act needs to be reformed so that it clearly defines the threats for which insurance coverage should be provided.***

Based on overseas experience, the conclusion is that policies need to be carefully reviewed to ensure full coverage for **river** floods, **flash** floods and **urban** floods (caused by rain). There is some concern about the insurance coverage available, with some saying there is simply a lack of insurance products, especially in relation to floods. This requires further research and discussions with market suppliers.

#### ***Home property insurance***

Property insurance against natural disasters is voluntary in Bulgaria. Insurance companies offer coverage for most natural perils, and depending on the type of peril and the insurance company, it's either part of a standard homeowner's policy or an add-on to it. Property insurance in Bulgaria usually includes flood and storm cover, although some products have a separate flood clause. Insurance penetration in terms of households is less than 10% - there is a general perception that the government will cover all costs, and the cost of insurance premiums can exceed the budget capacity of families. Because of this low penetration rate, the Bulgarian government has recently been providing flood relief to uninsured homeowners. The granting of benefits is based on eligibility requirements such as: owning only one home (built in accordance with the legislation); income below the poverty line; the person is not registered as a sole trader and does not own companies. However, this is a strategy and actions that the Bulgarian state cannot

afford for a long time, due to scarce financial resources and frequent disasters.

Decision-makers could look at examples from other countries that have developed compulsory insurance systems, such as France, England, etc., to assess whether compulsory insurance is an appropriate approach.

*For example, in Poland* , depending on the type of insured home, the policy amounts to:

- Type A dwelling, with an insurance amount of 20,000 euros and an annual premium of 20 euros;
- Type B apartment, with an insurance amount of 10,000 euros and an annual premium of 10 euros;

*As a first step, a comprehensive assessment of the current financial protection against natural disasters in Bulgaria* is needed, which can be of benefit to:

- 1) establishing the quantitative dimension of damages and losses from past disasters, as well as the necessary budget for response, recovery and reconstruction;
- 2) a review of the available mechanisms and sources of funding, as well as the relevant timeframes for mobilizing funds and flexibility in the use of resources;
- 3) determination of the challenges related to the lack of funds in the different time periods (immediately - for response, within weeks - for recovery and within months - for reconstruction);
- 4) examining the institutional structure of post-disaster financing in Bulgaria and determining the levels of responsibility of the government and the various public bodies in relation to post-disaster financing in the relevant sectors;
- 5) assessment of coverage levels for government assets and households under various threats;
- 6) providing recommendations on how to improve post-disaster financing with a view to reducing the adverse financial effects of natural disasters.

As a next *step* , *a comprehensive analysis of post-disaster financing* in Bulgaria is needed .

The objective of the assessment/analysis is to develop a national disaster/flood risk financing and insurance strategy and to improve the post-disaster/flood financing system;

*The analysis* should include:

- an overview of how response, recovery and reconstruction is financed at the national, regional and municipal level, overt and hidden costs that have been borne by the state in

past events, and expected costs in the future (especially when legislation is amended);

- relevant policies and legal frameworks, obstacles and incentives for deepening the penetration of household insurance products;
- how prevention and risk reduction are financed, etc.;
- legislative reform to ensure that municipalities insure public infrastructure against the main threats (storms, floods, earthquakes) identified in disaster protection plans under the Disaster Protection Act;
- discussions with the insurance and public sectors and with the population on how to deepen private insurance coverage;

## 6. Determination of goals and priorities in the context of the identified problems

Based on the results of an analysis of the existing legal framework, an analysis of foreign experience and an analysis of the institutional capacity of the various structures, the gaps, shortcomings and inconsistencies in the existing capacity in the field of flood risk management were identified and specific directions were determined. Objectives, priorities and actions to achieve an improvement in overall coordination and cooperation between the various institutions having a role in flood risk management.

### Analysis of coordination and communication mechanisms

In order to formulate the sequence of actions when preparing a Strategy for the relationship between prevention and response for flood protection of the institutions on the Bulgarian side, it is necessary to consider the coordination and communication of the stages of prevention and response in practice. It should be considered that the Strategy will change and evolve in the process of discussion with stakeholders and in the period of its testing within one year.

*At the prevention stage:*

**BD, in the capacity of a body for basin management:** carries out activities in two directions - it prepares the FRMP and the Program of measures to it. Monitors the implementation of the measures and reports to the EC. Communicates with the authorities responsible for the implementation of the measures, preparing letters and receiving written responses.

It has been established that part of the municipal administration has a misunderstanding of the obligations, due to the need for legal amendments and listing them in the zoning regulations. First established gap along the communication and coordination horizon.

The need for regulatory amendments is also relevant for BD in relation to the zoning regulations.

Municipalities are also represented in the composition of the Basin Council. The problems with territorial planning and coordination with FRMP between the two bodies can be improved through the activity of this council, pending a change in the regulatory framework.

On the other hand, the BD participates in the interdepartmental commissions by orders of the regional governors and mayors of municipalities to establish river sections with reduced conductivity, according to the provisions of Art. 140 of the Water Act. For the participation in the commissions, finding protocols are drawn up, instructions for cleaning are given and reports are prepared to the relevant regional governors, with a copy to the Directorate of " Investigation " in the Ministry of Internal Affairs and Communications. To support the implementation of the provisions of Art. 46, Art. 58 and Art. 140 of the Water Act (WA) for activities related to ensuring the conductivity of riverbeds, obligations of the competent authorities regarding the control of the condition and conductivity of riverbeds and carrying out activities in riverbeds, as well as the application of other provisions related to the activity of cleaning the river beds has been issued by the Minister of Environment and Water, publicly available on the website of the Ministry of Education and Culture in the "Surface Waters" section.

According to the methodological instructions of the Ministry of Internal Affairs and Communications to the DB for improving the effectiveness of the BD's control of the conductivity of the river beds, a Plan - a schedule for inspections of river sections with reduced conductivity is drawn up annually by March 15 based on data collected by February 28 by the mayors of the municipalities and "IS" Ltd.. The plan - the schedule is sent to the Directorate " Information " at the Ministry of Internal Affairs and Communications and reports are prepared twice a year, and information is also published on the website of the relevant database.

BDs participate in checking the technical condition of the dams. RD - FSCP, mayors of municipalities, "IS" Ltd., SAMTS or SEMD (where relevant ), owners of microdams participate in the commissions .

In the course of the inspections, finding protocols are prepared by the BD, SAMTS or SEMD, which are exchanged between the institutions, and all the information is included in the report to the relevant regional governor.

Analyzing the activity of the BD and the coordination with the other horizontal institutions regarding the implementation of prevention activities **in the field**, it can be reported that legally

things are clear, the duties and responsibilities are understandable by each participant and there is no need for a new unit or legislative changes. There are also two methodological instructions of the Ministry of Education and Culture, supporting the implementation of activities and the implementation of legal provisions.

The weak link is the lack of a unified database.

At the next stage after the inspections, problems are identified. After the checks are carried out, instructions for cleaning are issued for the sections with established reduced river conductivity or sections up to 500 m after the dam wall. Analysis of available data on BD sites and reports show that municipalities are making efforts to maintain the conductivity of rivers and streams within the boundaries of urbanized areas. For the corrected sections, "IS" Ltd. prepares projects, which are applied to the Interdepartmental Commission for Restoration and Assistance, and the procedure is cumbersome. According to the Disaster Risk Reduction Strategy 2018 - 2030 The interdepartmental committee for reconstruction and assistance under the Council of Ministers does not have sufficient capacity to deal with the consequences of disasters of a significant scale, and any such event disrupts the process of financing planned preventive activities.

In terms of regional administrations, prevention actions are not carried out or are carried out for very few areas, and they are mainly related to the cleaning of tree and shrub vegetation. Regarding the cleaning of alluvial deposits, it is not carried out due to lack of financial resources.

The first step to improve the process at the vertical prevention stage is to create a mechanism for feedback from the Ministry of Internal Affairs and Communications to the MoEW, from there to the BD, for the projects that have been received, which will be financed, the time period in which they will be approved, in order to implement control and effective prevention.

Here, it is logically necessary to proceed with a normative change, which would include a representative of the Ministry of Internal Affairs and Communications in the composition of the commission.

**Communication** prevention activities:

**NIMH** – an essential role at the stage of prevention. With its network of HMS covering the river network in the country, access to satellite data for metrological weather and through the already built models, the institute provides timely data to the DG FSCP and the Ministry of Environment and Water regarding precipitation and the state of river levels.

In the event of a forecast of heavy rains, NIMH activates the operative unit in the MoEW, respectively those created in the database . Information on the condition of the rivers, expected increases in the river levels, including through evaluation of models for specific watersheds developed within various projects, is sent to the database from the MoEW . Conversely, databases submit information during a certain period of time, and the collection of information includes the information received by the duty officers of the RD FSCP, the municipal administrations and on the "emergency phone" of the DB .

There is no problem with communication, coordination and misunderstanding of obligations by the relevant institutions.

From NIMH, through the mass media, the population is informed about the weather forecasts, **but not about the need for follow-up, which we consider an area for development in the future in terms of preparedness of the population to respond to a flood forecast.**

**Water Coordinating Council and Supreme Advisory Council** - legislative obligations and regulations for their structure and activity are listed. **A vertical feedback mechanism should be built for the discussed issues, voted decisions and follow-up actions regarding the prevention of the harmful effects of water.**

**Normative gaps leading to weaknesses at the prevention stage** are the established circumstances:

- No Ordinance has been developed on the content, conditions and procedure for the creation and maintenance of specialized water management maps, registers and information system according to Art. 178, para. 2 of WA. The competent authority for the registration is the Minister of the Minister of Regional Development and Public Works;
- floodplains of the rivers have not been defined;
- A digital terrain model is missing;
- Lack of spatial planning policy in flood risk management. A need to write/update legal provisions for territorial planning or to better integrate land use planning to limit the effects of floods has been identified.
- There are gaps in the insurance policy in flood risk management. The issue of a public flood insurance scheme is not settled, and there are no provisions for compulsory private flood insurance.

- There is a lack of methodology to identify potentially suitable plots of land on which green infrastructure can be built. The development is not bound by a normative act and is not addressed to any institution.
- There are no developed common indicators and standards (unified national system) for a set of data concerning human, material and economic losses from floods;
- No specific methodologies have been developed to address climate change risks in flood risk management;
- Lack of mapping of climate change risks;
- The spatial planning law lacks specific references to disasters caused by climate change.

**Actions should be taken to initiate legislative changes and** actions to secure financial resources.

The identification of the interrelationships between the institutions responsible for taking actions at the prevention stage was already done at the stage of development of the Preliminary Flood Risk Assessment by the BD. According to the information presented in the Preliminary Flood Risk Assessment in the Danube Basin Management Region, the scheme of interaction between the specialized institutions and their main functions related to flood risk management is as follows:<sup>3</sup>

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<sup>3</sup> Source: Preliminary flood risk assessment in the Danube basin management area.





Figure 2 The interrelationships, order of notification, interaction and coordination of executive authorities and components of the unified rescue system

In accordance with the Disaster Protection Act, District and Municipal Disaster Risk Reduction Councils have been established, with the participation of territorial executive bodies, in partnership with emergency response services, providers of essential goods/services and others relevant to disaster risk reduction.

The members of the Disaster Risk Reduction Council ( DRRC ) jointly plan disaster protection at the district and municipal level. Disaster risk reduction councils are required to develop disaster protection plans ( DPPs ) at the municipal and district level. These were developed and adopted in the period 2018-2019.

In disaster protection planning at the national, regional and municipal levels, the Disaster Risk Reduction Councils are guided by the guidelines of the National Disaster Risk Reduction Council approved in 2017.

The National Disaster Protection Plan is developed by the Disaster Risk Reduction Council

and adopted by the Council of Ministers.

The regional disaster risk reduction plan is developed by the regional disaster risk reduction council. The plan is agreed with the chairman of the National Council for Disaster Risk Reduction under the Council of Ministers and comes into force after approval by order of the regional governor. The municipal DPP is developed by the municipal council to reduce the risk of disasters. The plan is agreed with the regional council on RBF and enters into force after its adoption by the municipal council. The period of validity of a DPP can last up to 5 years, after which it must be revised and updated. Revision and updating of disaster protection plans is mandatory after each implementation of the relevant plan, as well as when the regulations related to their implementation are changed. The review of the DPP may or may not result in an amendment, addition, cancellation or replacement of a plan

The DPP defines the commitments regarding prevention, preparedness, response and recovery, as well as the objectives and actions to improve risk management.

At the same time, the "Floods" part of the PES is integrated with the flood risk management plans, i.e. The disaster protection plans are drawn up considering the predictions, objectives and measures set out in the flood risk management plans developed under the terms and conditions of the Water Act.

District plans for disaster protection in the area of floods are agreed by the BD.

The distribution of duties and responsible authorities and persons for the implementation of the foreseen disaster response measures are as follows:

**The district governor** - organizes and directs flood protection in the district; coordinates and supervises the preparations for action in the event of a flood carried out by the district administration, the territorial units of the ministries and departments, legal entities and individuals in the district; in the event of a flood, endangering the life and health of the population, implements the district disaster protection plan - part "Flood Protection" by order; establishes a flood notification organization; coordinates the rescue and urgent emergency recovery works that occurred on the territory of the district, when they go outside the territory of a municipality, as well as when the mayor of the municipality has ordered this.

**Regional headquarters** for the implementation of the regional disaster protection plan and for interaction with the national and municipal headquarters - performs analysis and assessment of the disaster situation; proposes to the regional governor for approval decisions regarding the necessary volume and resource provision of rescue and urgent emergency restoration works to

prevent, limit and liquidate the consequences of the disaster and to assist the affected population; carries out control over the implementation of the tasks and measures to control the disaster; informs the population through the media about the development of the disaster, about the actions taken to limit and control it and about the necessary precautions and actions; report to the regional governor on the progress of the security measures being carried out.

**The mayor of the municipality** - organizes and directs flood protection on the territory of the municipality; coordinates rescue and emergency recovery works; exchanges information with the operational center of the Ministry of Internal Affairs; organizes and coordinates the temporary evacuation and provides emergency assistance to the injured persons; can declare a state of emergency on the territory of the municipality; can attract legal entities and individuals to provide assistance in accordance with their capabilities; may include in the protection activities and the created voluntary formations.

**Municipal Headquarters** for the implementation of the Municipal Disaster Protection Plan - analyzes and assesses the situation in the event of a disaster; proposes to the mayor of the municipality for approval decisions regarding the necessary volume and resource provision of rescue and urgent emergency restoration works to prevent, limit and liquidate the consequences of the disaster and to assist the affected population; carries out control over the implementation of the tasks and measures to control the disaster; informs the population through the media about the development of the disaster, about the actions taken to limit and control it and about the necessary precautions and actions; report to the mayor of the municipality on the progress of the protective measures being carried out.

**DG FSCP / RD FSCP** - carries out activities to ensure fire safety and protection in the event of fires, disasters and emergency situations under the conditions and in accordance with the on the Ministry of the Interior Act and the Act on Protection in the event of disasters. As part of the activities, the implementation of urgent emergency recovery works, operational protection in case of floods and search and rescue operations and chemical, biological and radiation protection. The conditions and procedure for carrying out these activities are defined in Instruction No. 8121h - 418 of April 5, 2021 of the Minister of the Interior.

**The Bulgarian Red Cross** - creates and maintains a reserve of property of first necessity for initial assistance to the victims; interacts and coordinates with governmental and non-governmental structures involved in flood rescue operations; collects and distributes domestic and international aid to the population in the affected areas; creates voluntary formations to help the population in case of flooding.

**Bodies for the protection of public order** - informs the Chairman of the Headquarters about the operational situation and the measures taken and requests his assistance in terms of security, protection of public order and the protection of the property of citizens in the area of the flood; proposes measures for the joint work and interaction between the RD of the Ministry of the Interior and the regional administration to organize the activity to overcome, control and prevent the actions of economic and criminal crime, the prevention of disturbances and the counteraction of the spreaders of rumors against the normalization of the life and activities of citizens; maintaining passages in the areas affected by a disaster in order to provide routes and conditions for the introduction of formations of rescue teams from the constituent parts of the Unified Rescue System; assistance of the medical teams in providing first aid to the injured and establishing the identity of the dead; traffic safety control during the transportation of essential goods, medicines and others to the affected and cordoned off areas; ensuring the isolation of areas (neighborhoods) and ensuring a transit regime when a traffic ban is imposed; ensuring order and safety when evacuating the population and dispersing material values from disaster areas.

Unlike the prevention stage, **no regulatory gaps and weaknesses have been identified in the flood response stage.**

The problems in flood risk management at this stage are tied to the results of the preventive activity, including the **availability of sufficient and reliable information to predict the extent of floods and the possible damage from their occurrence.** The provision of feedback from the local authority to the institutions about the event and the damage caused after its occurrence is an important step in the planning of preventive measures. Thus, in practice, the importance of the interrelationship between institutions at the individual stages of flood risk management is confirmed.

The scale of human and economic losses due to floods can be reduced if: adequate preparation, planning, training and mitigation actions are taken through timely and coordinated activities before, during and after the disaster situation.

In order to establish and improve the relationship between the institutions on the Bulgarian side, it is necessary to take the following **measures** at the response stage for flood protection:

1. Ensuring a high level of commitment/responsibility from all institutions and organizations in planning the response process;
2. Improving the management and coordination of the implementation of the DPP during a disaster.

3. Ensuring the effective implementation of the DDP during a disaster.
4. Improvement of the provisions concerning decision-making in the protection of the population, with the same being supported by appropriate scientific and technical advice/opinion.

To ensure the implementation of the above measures at the reaction stage, it is necessary:

- Clear identification of the roles, functions and capabilities of the individual institutions responsible for responding to disasters at the individual levels (national, regional, municipal, local), the means and resources needed to carry out the activities;
- Description of the conditions for cooperation and coordination;
- Description of the system for early warning and notification of the relevant headquarters for the implementation of the DPP;
- Description of the structure, functions and roles of the headquarters for the implementation of the DPP;
- Determination of general principles for the response of individual institutions in accordance with the DPP;
- Defining the principles or criteria for disaster response in the relevant territory;
- Establishing a procedure for declaring a "state of emergency";
- Establish information protocols so that information relating to the disaster and its aftermath is effectively collected, analyzed and shared.